Impacting the B2B-Business Development Process: Social Media Usage within a Global Software Environment

HENLEY BUSINESS SCHOOL

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A Thesis submitted in partial fulfilment of the

Degree of Doctor of Business Administration

Faculty of Marketing and Reputation

by Werner Krings

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Declaration

I confirm that this is my own work and the use of all material from other sources has been properly and fully acknowledged.

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Certificate of Readiness

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Acknowledgements

Dedication

This thesis is devoted to my wife Maria Krings and all the people encouraging my learning journey even in challenging times. With their patience, prayers, and support, this adventurous and fascinating journey was mastered over the last years. Whenever my commitment and faith was severely tested by unforeseen changes and temporary setbacks, my wife reminded me of the scripture *better is the end of a thing than the beginning thereof.*

Ecclesiastes 7:8, KJV.

Inspiration

"In the beginning was the Word, and the Word was with God, and the Word was God. The same was in the beginning with God. All things were made by him, and without him was not anything made that was made. In him was life, and the life was the light of men."

John 1:1-4, KJV.

This scripture came to my mind a few years ago after finishing the daily MSc studies by midnight when the synaptic firing rate resulting from originating ideas kept me sleepless and led me back to research activities. This scripture is transferable to the undertaking of my thesis. At first was the mere inspiration to research the topic, words had to be exchanged to share the vision with professors, colleagues and business partners and to identify potential research gaps. This is how over time the ideas and words were formed, which created this work sustained by gratitude and prayers.

"To do successful research, you don't need to know everything; you just need to know one thing that isn't known."

Arthur L. Schawlow, American Physicist, and Nobel Laureate

This quotation succinctly expresses the advice of Prof Dr Claire Collins, Director of the DBA programme and Dr Liza Castro-Christiansen, my Mentor during the MSc phase concerning the importance of the contribution to the body of knowledge.

Abstract

Recent academic and practitioner studies indicate that Social Media in B2B-Business Development is an emerging phenomenon with little direction and scant guidance. While Social Media has received extensive attention in Business-To-Consumer, there is a paucity of Business-To-Business studies with joint research being a novelty. This research attempts to explore and explain how Social Media impacts the B2B-Business Development process cycle in the software solutions and services environment by testing a conceptual model applying a cross-sectional survey of more than 530 practitioners.

This research develops a conceptual framework of different fields such as Relationship Marketing and Information System Theory incorporating Social Capital and Usage Criteria as critical moderators leading to new business. The B2B-Business Development process phases represent constructs conceptualising the behavioural outcome of business performance. The cross-sectional research design follows a post-positivist approach with an exploratory and explanatory phase. The model was adjusted by open-ended expert, qualitative semi-structured interviews with gatekeepers and decision-makers of various functions, industries and regions. Measurements were developed based on the literature, and a large-scale online survey was performed to test and validate the conceptual model and instruments. The research gap (focus on salesforce) suggests considering vendor, third-party and buyer executives as a unit of analysis. The sample from LinkedIn/XING was established at the research outset in 2015. The mixed methods approach (Thematic Analysis) and quantitative data analyses (IBM SPSS-Statistics v23, Structural Equation Modelling AMOS v23) allowed for exploration and analyses in the same study.

The findings contribute to existing academic knowledge by raising awareness about the B2B-Business Development liaison and its process phases in general and the impact of selected Social Media, in particular, to influence processes with the objective of enhancing the perceived and expected business performance. Overall, the results uphold the theoretical conjectures and create a parsimonious and innovative model by integrating Social Media into B2B-Business Development processes and acknowledging the pivotal role Social Capital plays. In conclusion, Social Media Usage affects Business Performance increasingly by accelerating the B2B-Business Development process cycle as an auxiliary technology which should however not be overestimated. Academic and managerial contributions include the definition of Social Business *Relevance* and Social Business *Motivation Indices* advancing the ROI debate, the classification of B2B-Business Developers in Social Media *Advocates*, *Mixed Types*, and *Sceptics*, defining and optimising B2B-Business Development processes critical to the global software environment and deriving recommendations and guidelines to render B2B-Business Development operations more agile through enhanced cooperation and interaction. The methodological contributions comprise refined measurement scales and an *engaging* Social Media approach to collect large amounts of data within a foreseeable period.

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List of Abbreviations

AMOS	Analysis of Moment Structures
ANOVA	Analysis of Variance
BD	Business Development/Developers
B2B/B2C	Business-to-Business/Business-to-Consumer
BRIC	Brazil, Russia, India and China
CMO	Chief Marketing Officer
cf	confer (compare)
CFA	Confirmatory Factor Analysis
CAGR	Compound Annual Growth Rate
CRM	Customer Relationship Management
DACH	Germany, Austria, Switzerland
DBA	Doctor of Business Administration
DF	Degrees of Freedom
DV	Dependent Variable
EBSCO	Elton B. Stephens Company (Database)
EFA	Exploratory Factor Analysis
e.g.	exempli gratia (for example)
et al.	et alii (and others)
etc.	et cetera (and so on)
ERP	Enterprise Resource Planning
GMC	Global Marketing Conference
GOF	Goodness-of-Fit
H2H	Human-to-Human
IMP	Industrial or International Marketing and Purchasing
i.e.	id est (that is)
IS; IT	Information System; Information Technology
IV	Independent Variable
KJV	King James Version (Holy Bible)
KMO	Kaiser-Meyer-Olkin
KMS	Knowledge Management System
KMV	Key Mediating Variable
KPI	Key Performance Indicator
MES	Manufacturing Execution System
M	Mean

MI	Modification Index/Indices
MSc	Master of Science
N	Overall Sample Size
NA	North America
N/A	Not Available
Opps	Opportunities
PCA	Principal Component Analysis
Pct.	Percent
RA	Regression Analysis
RELPERF	Relationship Performance Measurement Instrument
RFI/RFP	Request for Information/Request for Proposal
RM	Relationship Management/Marketing
ROI	Return on Investment
ROR	Return on Relationships
RQ/RV	Relationship Quality/Relationship Value
R^2	Coefficient of Determination/Variance
SBMI/SMRI	Social Business Motivation Index/Social Business Relevance Index
SCM	Supply Chain Management
SD	Service Dominant
SD, Std Dev	Standard Deviation
SEM	Structural Equation Model
SMEs	Small and Medium-sized Enterprises
SM, SocMed	Social Media (in Variable)
SNA/SNS	Social Network Analysis/Social Network(ing) Site
SPSS	Statistical Package for the Social Sciences
Sig.	Significance
TAM	Technology Acceptance Model
TRA	Theory of Reasoned Action
TradMed	Traditional Media
UK/US	United Kingdom/United States
UoR	University of Reading
v	Version
vs.	versus
VIF	Variance Inflation Factor
VUCA	Volatile, Uncertain, Complex, and Ambiguous
WE	Western Europe

Introduction

"Social Media touches nearly every facet of our personal and business lives. In business, it isn't just for the marketing and public relations departments. Rather, it is imperative for social media to be an integral part of a company's overall strategy. Whether a business is large or small, its overall success will be partly owed to its success within social media" (Qualman, 2012,ix).

The purpose of this introductory chapter is to present a synopsis of the nature of the research project with meaning for academics and practitioners and a roadmap to navigate this thesis. Initially, the background for embarking on this project and relevance of the research area is delineated. Next, a discussion of relevant research questions with specific objectives follows to reach the overall research goal by exploring the impact of professional Social Media Usage within the B2B-Business Development process on the Business Performance. Thereby, the stage for the conceptual research model with its hypotheses is set, followed by a description of the research methodology and conceivable contributions and limitations. This chapter concludes by outlining the thesis structure.

1.1 General Background

Since 2004, Google trends has noticed a growing interest in Social Media while the year of 2010 marked the starting point for its emerging usage within B2B (Michaelidou et al., 2011). This relates also to 'Social Media and B2B-Business Development' indicating that these concepts have advanced to the focal point in discussions about B2B-Business Development among practitioners.

This prominence within the B2B-context is supported by anecdotal studies (Shih, 2009; Michaelidou et al., 2011) and already anticipated in the 2011 Regus Social Media recovery survey. The findings of interviews conducted with 17,000 senior managers and business owners in 80 countries show that companies utilise increasingly Social Media besides Traditional Media (global average of 53%). Hereby, country-specific differences are observable such as in Germany, where the majority of companies (52%) utilise Social Media to find new customers compared to 43% (41%) in the US (UK) .

Within the last decade, the rise of Social Media has drastically transformed the way companies communicate, collaborate, retrieve and share pertinent information while building multi-platform networks and engaging in global virtual communities (O'Reilly, 2007; Kaplan and Haenlein, 2010; Michaelidou et al., 2011; Stefanidis et al., 2013; Lattemann et al., 2014). With more than 12,700 LinkedIn, 1,450 XING and 334 Facebook contacts, the power of second and third-degree connections and various online groups, the tremendous potential Social Networking Sites (SNS) have for developing business becomes clearer.

Powell (2009), as well as, Dermentzi et al. (2016) consider the professional image, online introductions/endorsements and social capital as business enablers. Social Media promote and strengthen the credibility with gatekeepers at the beginning of business relationships (Krings, 2016).

In spite of the magnitude for practitioners to engage Social Media, there is, however, no clear direction among scholars on how to develop this subject especially in the context of B2B-Business Development. In isolated instances, scholars have recently conducted the discussion of Social Media Usage within the high-tech industry primarily in:

- Branding and Marketing (Brennan and Croft, 2012; Rodriguez et al., 2014; Yenicioglu and Christodoulides, 2014)
- Sales Performance (Rodriguez et al., 2012; Schultz et al., 2012) and
- Acquisition and Nurturing of Business Relationships (Kazienko et al., 2013; Wilcox and Sussman, 2014).

These fields of interest are intersecting and sometimes even incongruous. Scholars agree that Social Media Usage influences to some extent B2B-Sales processes (Avlonitis and Panagopoulos, 2010; Agnihotri et al., 2012) while they remain undetermined concerning the effects on business performance (e.g. Rodriguez et al., 2012).

The mounting interest of practitioners in Social Media Usage in the B2B-environment meets a paucity of academic literature which indicates that scholarly research is still in its infancy and lagging far behind (Michaelidou et al., 2011; Siamagka et al., 2015; Salo, 2017).

Current B2B-challenges like the "increased competition, slowed world economy (…) qualified lead generation" (Rodriguez et al., 2012,365) and new digital technologies like Social Networking Sites prompt companies to review their processes to ensure and generate new business. But, if the impact of Social Media is underestimated and neglected in B2B-Business Development, critical process phases might be delayed or even undetected. Enhanced process phases, in turn, will, on the one hand, impact the performance of companies by creating new business, and on the other hand, mitigate the risk of losing the competitive edge. Specifically, Social Media as 'credible information source' might offer possibilities to simplify operative information and communication processes, i.e. screening information and identifying key people to establish a network of contacts (Westerman et al., 2014).

Leading scholars in this field like Kaplan and Haenlein (2010), as well as Rodriguez et al. (2012), stress the importance to integrate both, Social Media and Traditional Media activities in the B2B-context. Though Social Media has occasionally been studied within the B2B-Sales or Marketing context, the research on how Social Media might influence individual phases or the entire B2B-Business Development process with a focus on sustained Business Performance enhancement has either not been studied as of yet or needs further research. Consequently, the academic research in these areas is still groundbreaking.

This research is set to present a novel conceptualisation of B2B-Business Development that reflects on Social Media Usage during different process phases to impact business performance. While some conceptual research in the area of B2B-Business Development has been undertaken (Davis and Sun, 2006; Sørensen, 2013), the consideration of Social Media technologies remains mostly unnoticed.

By recognising this gap, the research concentrates on the liaison function of B2B-Business Development between Marketing and Sales, thereby extending recent work on Social Media usage with a mere B2B-marketing or sales orientation (Moore et al., 2013; Keinänen et al., 2015; Moncrief, 2017). The unique research context characterised by global software vendors targeting buyers of various industries, located in Europe and North America distinguishes this research from the extant industry- and region-specific seminal work.

This research approach will draw mainly on literature essential to the core concepts, Professional Social Media, B2B-Business Development and Business Performance which form the constituents of the subsequent research framework. By examining models of software buyers, vendors and third-parties, primarily in the DACH, West European and North American Region the research follows future recommendations made by Rodriguez et al. (2012).

The reason of choosing a mixed methods approach is to adhere to the methods suggested in the literature and to raise the level of understanding and awareness of how Social Media business usage might impact B2B-Business Development processes and ultimately Business Performance. Consequently, the research aims at providing benefits for the academic body of knowledge and managerial practice.

1.2   Problem Statement

From this background, the seminal literature indicates that Social Media Usage has been moderately researched mainly within the B2B-sales function, yet separately from the preceding B2B-Business Development function (Avlonitis and Panagopoulos, 2010; Rodriguez and Peterson, 2012). Lately, Social Media Usage has received some attention in conjunction with sales-related activities that partly resemble those of Business Development (Moore et al., 2013; Moore et al., 2015). Yet, Social Media Usage in the independent B2B-Business Development function has previously been hardly researched and warrants exploration. This relates as well to the affected performance of Social Media in both, B2B-Business Development and Sales, which still remain uninvestigated. Possible reasons for the particular research value are closing a gap in the academic literature by including Social Media usage in the B2B-Business Development function and supporting the efforts of practitioners to accelerate B2B-Business Development process cycles with the objective to generate leads and opportunities faster than their competitors.

Another research gap exists around the possibilities to impact the business performance by way of various B2B-Business Development process phases via a blended usage of Traditional and Social Media. Furthermore, there is no adequate research on how B2B-Buyers perceive and evaluate the Social Media engagement on the part of the Supplier's Business Development (Ramos and Young, 2009; Grewal et al., 2015).

Researching how the duration and quality of B2B-Business Development and Sales cycles might be optimised via Social Media usage appears to be original. Literature encourages the idea to streamline the length of B2B-Business Development and Sales processes (Davis and Sun, 2006; Avlonitis and Panagopoulos, 2010). Managing the relationship cycle (as part of B2B-Business Development and Sales) more effectively will ensure repeat business (Ata and Toker, 2012; Theron et al., 2013). This research infers that the integrated usage of Social and Traditional Media may enhance the length and quality of B2B-Business Development and Sales processes (Figure 1.1) for the following reasons:

Figure 1.1 Media Usage in B2B-Business Development and Sales
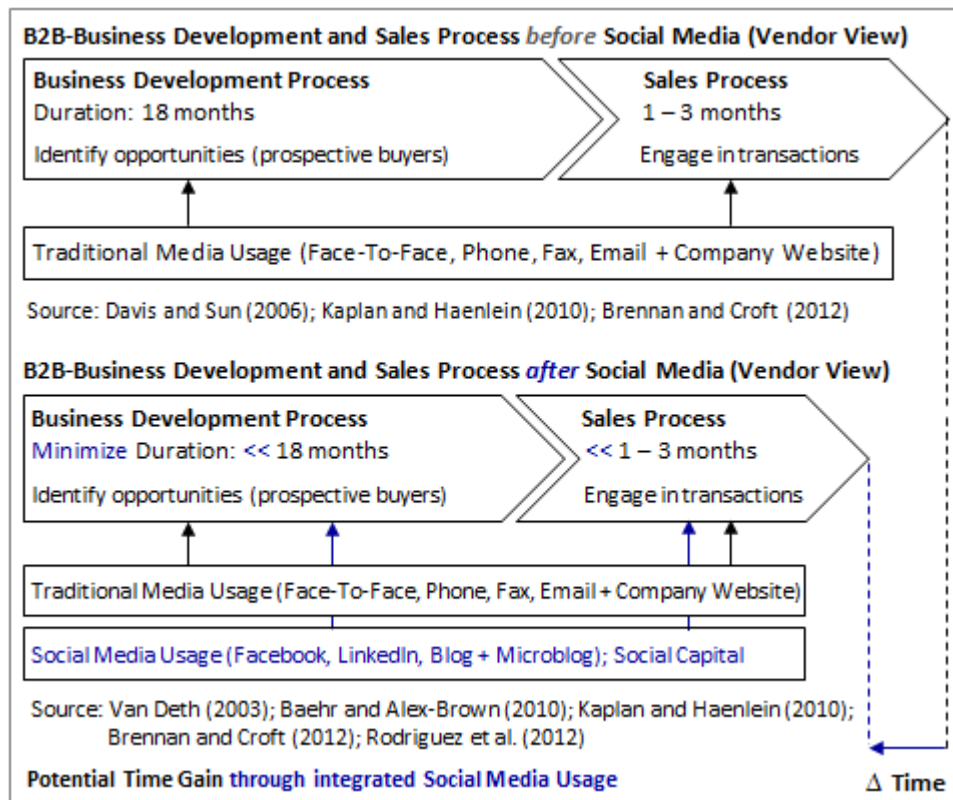
Social Media Usage involves growing supplier, third-party, and buyer social networks. The power of Social Capital in terms of accumulating key contacts facilitates more beneficial processes characterised by trust, mutual values and mitigated risk of failure (Van Deth, 2003 cited by Rodriguez et al., 2012,366). Likewise, it might reduce the duration of processes (Baehr and Alex-Brown, 2010 cited by Rodriguez et al., 2012,366).

Key issues include, what types of Social Media to involve, how these media might improve the agility and efficiency of B2B-Business Development and successively Sales processes.

The challenges are to decide which components and measurements have to be created to support such practices since the ultimate purpose is the improvement of Business Performance. This amounts to the overarching research question:

How does Social Media Usage impact the B2B-Business Development process and ultimately contribute to Business Performance within a global software environment?

1.3 Purpose and Significance of the Study

The study is based on the inspiration and idea to generate new profitable growth opportunities by optimising the duration and quality of the Business Development process (Davis and Sun, 2006; Rodriguez et al., 2012; Sørensen, 2012b). For the ultimate purpose of bridging gaps in the relevant literature and originating new knowledge, this study intends to answer the following research questions:

- *How does Social Media Usage impact the B2B-Business Development process?*

- *What are the various phases of the B2B-Business Development process in B2B-Software?*

- *What particular type of Social Media resonates with the individual process phases?*

- *What are the characteristics that moderate or mediate the relationship between B2B-Business Development and its Outcome?*

- *What are the particular types of Business Developers in Social/Traditional Media Usage?*

- *How can Social Media potentially tackle specific issues within the organisation, for example, Decision-Making, Process Enhancement, and Performance Metrics?*

This research indicates intrinsic importance enabling executives to identify and alter B2B-Business Development processes to generate new business by engaging Social Media. As pointed out before, the enthusiasm for the research stems from the expectation to render the overall process of creating profitable business opportunities more agile and efficient. This resonates with a recent definition of B2B-Business Development referring to "the tasks and processes concerning analytical preparation of potential growth opportunities, the support and monitoring of the implementation of growth opportunities (…)" by Sørensen (2013,1). Business Development Processes vary greatly among companies depending on the particular industry and can be defined as "routines and practices" with often not standardised activities (Davis and Sun, 2006).

This study intends to pursue a mixed-methods approach which respects the suggested research methodologies for the identified theoretical concepts in the literature. By selecting a sufficiently appropriate population, i.e. multi-actors (software vendors, third-parties and buyers) within the original setting of several regions, the research appears very likely to advance knowledge in the fields of interest. Ultimately, the research aims at deriving meaningful findings which address the research questions, bridge the gaps in the literature and extend knowledge, thereby providing substantial value to both scholars and practitioners.

1.4 Research Methodology

B2B-Business Development still has to attract the increased attention of scholars. Likewise, studies on Social Media in the B2B-Business Development related functions Sales and Marketing are a relatively novel phenomenon.

By contrast, these topics are popular and frequently discussed among practitioners (Schultz et al., 2012). However, the paucity of theory within B2B-Business Development (Davis and Sun, 2006) and the vague definition (Giglierano et al., 2011) indicate that there is little agreement across contrasting ideas and ways of thinking. This lack of clarity with regards to the definition of B2B-Business Development applies, especially to practitioners. For example, B2B-Business Development comprises different activities dependent on the industry and managerial view. Furthermore, companies have not yet recognised the potential that Social Media technologies in B2B-Business Development may present (Evans and Volery, 2001; Ramos and Young, 2009; Rodriguez and Peterson, 2012). All of this suggests the necessity to tackle this subject and to identify the processes and technologies involved. It is critical to realise how the integration of Social Media within B2B-Business Development will compare and contrast with the concepts identified in the literature review conducted in Chapter 2.

The lack of clarity among practitioners about B2B-Business Development and scholarly reflections to assess the impact of Social Media practice suggests the use of a mixed-methods approach. While extant B2B-Business Development research is conducted mainly qualitatively, Social Media studies utilise commonly quantitative methodologies (Alves et al., 2016). Mixed-methods research ensures that practitioners and scholars better understand and integrate the research areas from an empirical and theoretical perspective and deduce a reasonable course of action (Greene et al., 1989; Creswell, 2014).

Chapter 4 contains the in-depth discussion of the philosophical position and suggests the research methodology in line with the research field and research questions posed. The philosophical position which is determined by the author's Western European worldview and Judeo-Christian value system suggests blending internal realism and relativism ontology with post-positivist epistemology.

The research design pursued is exploratory sequential (Creswell, 2014). Initially, the conceptual framework developed from the literature review is explored qualitatively with employees and executives from B2B-Business Development, Marketing, and Sales. This sustains contextual relevance and appropriateness towards developing the conceptual research framework. The exposure to junior, mid-level and senior professionals and executives from B2B-Marketing service providers, software vendors, and HR companies gives access and critical insight to determine suitable B2B-Business Development process phases and the relevant set of available Social Media platforms. Furthermore, different career levels assure that operative, technological and strategic aspects of B2B-Business Development (Wang et al., 2017) are taken into account.

Subsequently, it is determined whether the qualitative findings are transferable to a greater scale. Based on the literature review aligned with the qualitative findings, measurement instruments are developed, pre-tested and adjusted in preparation for the quantitative phase. The large-scale online survey aims at exploring and comparing professional Social Media Usage attitudes and perceptions of B2B-software buyers, vendor and third-parties. Furthermore, it determines the direction and intensity of the relations between Social Media Usage within the different phases of the B2B-Business Development process and the resulting impact on Business Performance measures.

The unit of analysis for the study is the group of executives and professionals within the functions mentioned above in various industries relevant to the ERP/MES/Cloud context. A three sample design ensures that the research considers both vendor, third-party, and buyer viewpoints. In this context, a vast majority of the survey participants were accessed through leading international B2B-software vendors and contacts on LinkedIn and XING.

The initial data was gathered through semi-structured interviews. The discussion guide comprised the identified core concepts and developed framework of constructs from the literature review and BD job descriptions. During the phone/Skype interviews, the discussion guide was adjusted to cover the critical topics while rearranging the areas of interest. The objective was to adjust the research by considering areas of particular interest (performance measures) and neglecting areas of less importance to practitioners (broad range of platforms).

As a method of analysis, Thematic Analysis was applied (Braun and Clarke, 2006; Guest et al., 2012). This method is similar to Content Analysis, flexible as to theoretical or epistemological stances and suitable to interpret various aspects for even smaller datasets (Boyatzis, 1998; King, 2004b). Thematic Analysis seemed appropriate to clarify, contrast and complement the core concepts from the primary literature with the central themes according to practitioners by generating unanticipated insights. The analysis was conducted according to a rigorous transcription, coding, analysis and reporting process to preserve consistency and recognise emerging aspects.

A large-scale online survey served to test and modify the conceptual research model and constructs. Relevant statistical procedures to answer the research questions are presented in detail in chapters 4 – 6 to support the findings for evidence purposes.

The significant steps which underpin this research are illustrated and recapitulated below.

Figure 1.2 Research Process
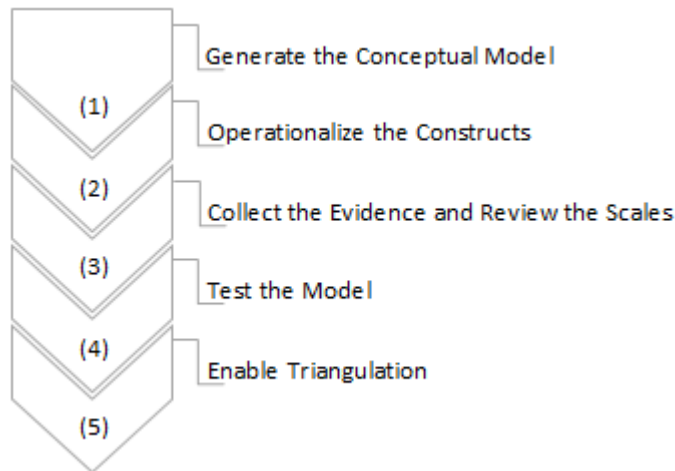
1) Generating the Conceptual Model

The findings of the literature review were complemented and reinforced by exploratory qualitative research. The qualitative data were collected by semi-structured interviews. A dataset of twelve experts was considered sufficient for theme saturation (Guest et al., 2006).

2) Operationalising the Constructs

The majority of instruments to operationalise the underlying constructs of the research model originated from the literature review. Emerging research perspectives led to the development of additional/improved scales. The selected items and scales influenced the statistical methods to address the research questions. For comprehensibility, practicability and acceptance purposes the initial instruments were subject to a pre-test to distil and refine the suitable items and scales.

3) Collect Evidence and Review the Scales

The data was gathered via a self-administered questionnaire. The comprehensive online survey was created via *Qualtrics*, a web-based survey solution. Appropriate scales and data quality interrelate with both, reliability and validity. Cronbach's alpha coefficient estimates were applied to examine the data reliability. Exploratory and Confirmatory Factor Analysis aimed at evaluating the dimensionality and validity of the multi-items measures (scales). The preceding data screening and cleansing process embraced a broad spectrum of activities such as discovering missing data, assessing normality and checking for outliers besides analysing delayed survey responses.

4) Testing the Model

SPSS v23 and AMOS v23 were used to analyse and evaluate the data statistically. Simple linear regression was applied to test the research hypotheses individually concerning the complex research model. Standard or hierarchical multiple regression analyses were conducted to test multicollinearity and singularity among the constructs. At the highest level, Structural Equation Modelling tested the importance of each independent model variable and the fit of the overall model to the collected data by comparing alternative models.

5) Enabling Triangulation

The concept of triangulation consists of comparing several perspectives on a research situation to increase confidence in the findings (Rose et al., 2014). Thereby, *data* triangulation compares various sources of evidence such as interviews with executives of different career levels, functions and/or vertical industries, whereas *methodological* triangulation compares the findings of different research methods.

To base this research on triangulation "refer[s] to the designed use of multiple methods with offsetting or counteracting biases" (Greene et al., 1989,256) to "capture a sense of reality" (Loveridge, 1990 cited by Remenyi et al., 1998,142) . Thereby, findings of the exploratory, qualitative data, i.e. evidence collected in cross-functional and cross-hierarchical semi-structured interviews were compared with findings in the quantitative research phase.

Using mixed-methods permitted construing research findings in a broader perspective, i.e. open-ended question comments from the semi-structured interviews revealed emerging insights on transforming B2B-Business Development processes and impacting Business Performance through certain Social Media platforms. Equally important is the fact that triangulation "ensure[s] that the evidence is valid and reliable" (Remenyi et al., 1998,142) and that contrasting the findings of qualitative and quantitative analyses warrants a better interpretation of the overall research. The ultimate objective of putting the research model to test within the confined research environment was to contribute innovative scholarly and managerial knowledge.

1.5 Components of the Research Model

This section describes the *context* and major *components* to develop the research model presented in Chapter 3. Professional Social Media (*antecedent*) impact via the B2B-Business Development process (*predictor variable*) in parts (individual phases) or its entirety (cycle) the Business Performance (*outcome variable*). These components will be discussed in-depth in Chapter 2, along with the underlying interdependent theories and potential determinants and attributes for inclusion/exclusion in the research model in Chapter 3.

The Software Environment

It is essential to understand that the research focus has been narrowed by mostly involving companies in vertical industries targeted by B2B-software vendors. The study suggests confining the term of B2B-software to essentially Enterprise Resource Planning (ERP) and Manufacturing Execution Systems (MES) systems due to the author's professional experience. This includes Cloud applications, i.e. software programmes where cloud-based and local components work together. Cloud technology is based on remote servers for processing logic being accessed through a web browser with a continual internet connection.

ERP systems like Oracle or SAP extensively map business processes across the supply chain (Klaus et al., 2000; Wei et al., 2005). MES solutions, e.g., Apriso/Dassault Systèmes, manage production processes and achieve visibility, control, and synchronisation by providing real-time information. MES is an IS application that integrates upwards with ERP systems (production planning) and downwards with the operational shop-floor (automation systems) (Bo et al., 2004; Simão et al., 2006; Kletti, 2007; Govindaraju and Putra, 2016).

Purchasing processes in such an environment involve a great diversity of decision-makers or buying centres (Robinson et al., 1967 cited by Johnston and Bonoma, 1981,143) bear high risks on the buyer side and are time-consuming (Kuhn and Alpert, 2004). Purchasing processes include evaluating suitable vendors, compiling a shortlist of finalists and drafting the purchase agreement. "Branding in the B2B-context is decisive" (Kotler and Pfoertsch, 2007 cited by Herbst and Merz, 2011,1073) . Brand awareness is mainly achieved by sales representatives, conferences, and exhibitions (Bendixen et al., 2004). Branding with Social Media builds trust with B2B-buyers, thereby mitigating buyer risks from inferior vendor selections. Notably, in B2B-Manufacturing Social Media usage is still at an early stage or even overlooked. Reasons for the restrained interest in and delayed adoption of Social Media usage in B2B compared to B2C are attributable to new technology barriers, limited resources and critical views about their usefulness (Buehrer, 2005 cited by Michaelidou et al., 2011,1155; Agnihotri et al., 2012).

Revisiting the Technology Acceptance Model (TAM) by Davis (1989) may clarify the attitudes and behaviour of B2B-executives towards Social Media Usage (Rauniar et al., 2014).

Based on regular discussions with ERP/MES/Cloud prospects, the author learnt that decision-makers in manufacturing frequently have strong privacy concerns for their hesitation towards Social Media Business Usage. Contrarily, Business/IT, Marketing and Sales key persona generally realise the importance of Social Media to build relationships through online trust and word-of-mouth. However, their contribution to Return-on-Investment measures are still doubted (Hoffman and Fodor, 2010; Taken Smith et al., 2015).

The components of the research model

This thesis supports the view of leading scholars that different perceptions exist on how Social Media Usage might affect B2B-Sales. Notwithstanding the fact that studies have been carried out for related functions like Marketing, Sales or individual process phases, e.g., prospecting, Social Media Usage has not been researched for the B2B-Business Development process in its entirety. Therefore, *Social Media Business Usage* will serve as an *antecedent* in the research model.

Avlonitis and Panagopoulos (2010); Rodriguez et al. (2012); Schultz et al. (2012) point out that Social Media facilitate identifying prospective buyers while Diffley et al. (2011); Rodriguez et al. (2012) state that Social Media help to nurture deep relationships. Critics argue that Social Media are mainly suitable for *soft* relationship marketing (Brennan and Croft, 2012). In contrast, Agnihotri et al. (2012); Rodriguez et al. (2012) recognise Social Media as fundamental to improve sales performance.

This research considers primarily professional Social Media which in combination with Traditional Media are being applied to some degree in B2B-Business Development of ERP/MES/Cloud vendors. In this respect, it becomes necessary both to determine what constitutes professional Social Media from the multitude of digital media and to discuss the underlying concepts, which impact on Business Performance via the B2B-Business Development process. The objective of the full integration of professional Social Media in the B2B-Business Development process is to optimise the software buying/selling processes.

B2B-Business Development Process (Predictor Variable)

The Business Development process in accordance with the findings of the literature review, BD job descriptions, and semi-structured interviews could be illustrated in the following way for the software environment but may vary according to the particular vertical industry.

Figure 1.3 Phases of the B2B-Business Development Process
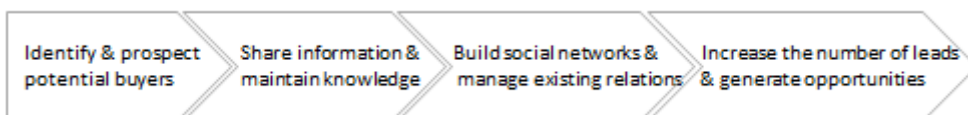
Types of B2B-Business Developers

Contingent on the acceptance of Social Media, the researcher identified two major types of B2B-Business Development professionals and executives. *Cutting-edge Business Developers* are *Social Media Advocates* or *Believers* engaging in this technology to some degree in their daily communication and information activities. This helps to position themselves as relationship builders and trustworthy experts in line with (Hunter and Perreault Jr, 2007; Rodriguez et al., 2012).

In fact, this rather tech-savvy type leverages Social Media along with Customer Relationship Management software to rapidly develop relationships. This type of Business Developer tends to shift interpersonal communication, which is essential for buying decisions, from face-to-face or telephone conversations gradually to Social Media (Sonnier et al., 2011).

On the contrary, *Old-School Business Developers* are *Social Media Antagonists or Sceptics* who tend to adhere to off-line Traditional Media (e.g. word-of-mouth, recommendations) or familiar technologies, e.g. email (Schultz et al., 2012; Stephen and Galak, 2012). They are slightly hesitant or opposed to adopting Social Media usage, e.g. blogs, posts and online referrals (Ahearne and Rapp, 2010; Moore et al., 2015).

Social Capital and Usage Criteria (Moderators or Mediators)

As stated beforehand, Social Media is considered besides Traditional Media Usage in various phases of the B2B-Business Development process to affect Business Performance.

Social Capital and Usage Criteria are associated topics prevailing in the seminal literature (Burt, 2000; Van Deth, 2003; Lin, 2008; Bolton et al., 2013). Social Capital is termed as goodwill established in social networks to share information and strengthen relationships (Coleman, 1988; Adler and Kwon, 2002) or as embedded resources in these networks accessible or mobilized by social ties, mutual trust and shared values impacting knowledge sharing (Lin, 2001 cited by Lin, 2008,4; Chiu et al, 2006). Usage criteria in the B2B-context encompass Sociodemographics, namely Gender, Generation and Career Level besides Technical Savviness and Usage Intensity (Howe and Strauss, 2007; Jones and Fox, 2009; Correa et al., 2010; Schultz et al., 2012; Bolton et al., 2013).

Both concepts become influential in various B2B-Business Development process phases (e.g. identifying/sharing information and generating opportunities). For example, B2B-Business Developers reach vital contacts more efficiently through cultivated social networks and endorsements critical for their reputation (Kietzmann et al., 2011).

Business Performance (Outcome Variable)

It is anticipated that including Social Media in the B2B-Business Development process brings about improved Business Performance, which could be differentiated in line with the research questions according to the following dimensions:

- *Process-based* (Optimise the B2B-transaction process) (Baehr and Alex-Brown, 2010 cited by Rodriguez et al., 2012,366)

- *Outcome-based* (Number of generated opportunities) (Rodriguez et al., 2012)

- *Relationship-based* (Return on Relationships) (Gummesson, 2004);
  (Strength of relationships) (Rodriguez et al., 2012)

- *Media-based* (Return on Investment) (Gilfoil and Jobs, 2012)

1.6 Limitations and Delimitations

This research contains limitations, those which are beyond its control and manageable delimitations (Baron, 2008). A major limitation consists in the non-application of a random sample. This means that the research findings cannot generally be applied to a larger population. In contrast, the use of a convenience sample implies that the research outcome can solely be advocated. Furthermore, the decision for a cross-sectional over a longitudinal study takes the proposed budget and time constraints of the DBA programme into account (McDaniel Jr and Gates, 2010).

Delimitations determine the overall scope and boundaries of the research such as the unique research setting (B2B-executives of ERP/MES/Cloud software vendors, third-parties, and buyers within specific key industries in the core regions of DACH, Western Europe, and NA) (Baron, 2008). For example, the generalisability to B2B-Business Developers of other underrepresented industries or regions may be problematic because of the particularities and security restrictions amidst individual sectors and/or regions (Keinänen et al., 2015; Alves et al., 2016). Cultural differences in these regions might impact the research findings, such as the way to do business or dissimilarities in the Social Media presence/absence of various decision-makers of different generations within, for example, the Aerospace & Defense industry due to data privacy and security requirements.

Moreover, the thesis focuses on the B2B-Business Development function by testing the impact of Social Media besides Traditional Media on different business process phases. It seeks to clarify what specific media are underrepresented and what media combination might be preferable or represent the best suitable fit. Other delimitations may be seen in the inclusion of primarily professionally used Social Media (e.g. LinkedIn) and the exclusion of channels with mainly private character (e.g. Instagram).

1.7 Research Relevance and Value

The background of the thesis indicates that Social Media Usage in the B2B-Business Development context is of increasing relevance for academia and practice. The idea that Social Media can be instrumental and transferable to an innovative Business Development approach within a global software context and worthy of research is embedded in the literature (Rodriguez et al., 2012; Prouty and Reid, 2013).

1.7.1 Research Relevance

The expansion of peer-reviewed scholarly journals (EBSCO/Business Source Complete) on Social Media, Business To Business (B2B) and Business Development in the last eight years (2010 – 2018) from initially 168 to 1,497 articles, demonstrates that scholars increasingly discover the significance that Social Media takes today among B2B-practitioners. The current research provides potential contributions in several ways.

1.7.2 Value for Academics

The current research recognises the potential to make several contributions to both areas, B2B-Business Development and Social Media Usage, that develop at a remarkable rate but are primarily researched independently of each other. One reason might be that B2B-Business Development is a buzzword in today's business world without being clearly defined. Another reason might be although Social Media research is growing, it is still at an early stage within the B2B-setting. Consequently, the connection between both areas which this research targets, is still new territory.

Firstly, the originality of this research consists of studying a conceptual combination of Social Media Usage and B2B-Business Development, which have so far mainly been researched in isolation.

Secondly, another novelty is to analyse the impact of Social Media within the B2B-Business Development process on Business performance by placing both concepts within the specific ERP/MES/Cloud environment characterised by the formalised exchange between vendor, third-party, and buyer sample.

Thirdly, this research extends the focus on B2B-Sales by including professionals and executives of the related functions, Business Development, Marketing and Sales/Purchasing. Professional Social Media (e.g. Facebook, LinkedIn, and Twitter) provide entrepreneurs with platforms for innovations to contribute to performance and scholars with promises, to "become one of the most challenging research arenas in the coming decade" (Liang and Turban, 2011,5; Roberts et al., 2016).

Major contributions are:

a) The *derivation of a new conceptual definition* of the B2B-Business Development process supported by a *final* structural model. Thereby, the emphasis is on how B2B-Business Developers leverage professional Social Media within the different process phases to exceed functional performance objectives and add to the overall business results.

b) The *design* of measurement instruments by combining, adjusting and transforming existing measurement scales based on the interdisciplinary literature review + pilot study.

c) The *unique selection and combination* of professional Social Media channels/platforms within the Business Development function to increase business performance following research suggestions (Schultz et al., 2012).

d) The *contrast of findings* to elucidate what are *the main drivers* of Social Media Usage to affect the Business Development process?

e) The *comparison of findings* to understand *to what extent* Professional Social Media and Traditional Media are applied in B2B-Business Development.

f) The *identification* of the Social Media Business Usage antecedent dimensions, *Inclination* and *Hesitation* and their influence on the duration of the Business Development cycle.

g) The *context* of the thesis by researching internationally primarily in the DACH, Western Europe, and North America (NA) regions within the B2B-Software/Services environment.

1.7.3 Value for Practitioners

For practitioners to be of value, the findings should provide actionable, decision-making information (McDaniel Jr and Gates, 2010). The created research model can be used cross-functionally (B2B-Business Development, Marketing, and Sales/Purchasing) to replace, to some extent, traditional ways to access information and to initiate contacts like costly and time-intensive phone solicitation by Social Media (McDaniel Jr and Gates, 2010).

Moreover, it might inspire professionals of Business Development, Marketing and Sales to bridge their fundamental cultural differences by expressing mutual appreciation resulting in better collaboration and increase in agility. This thesis suggests overcoming the traditional, siloed approach of Marketing and Sales by shifting the liaison role of Business Development into the spotlight. Thereby, Social Media plays a particular role as a disruptive technology to alter Business Development process phases (Suh and Houston, 2010). Therefore, it is expected that the adoption of Social Media will increase the agility, efficiency, and quality of the Business Development function, thereby creating a competitive edge for companies.

Major contributions are:

a) The *comprehensive research model* supports practitioners to reevaluate their traditional Business Development approach by increasingly engaging in Social Media and refining the Business Development process phases.

b) The *acceleration* and enhanced quality of Business Development/Sales processes by applying designated professional Social Media to targeted decision-makers, for example, in phases devoted to *information gathering* and *prospecting*.

c) The *unique combination* of Social Media Platforms in relation to Traditional Media to support the B2B-decision-making process.

d) The *development and inclusion* of Social Media related *key performance indicators* (indices) to complement existing measures like ROI, ROR and value co-creation.

e) The comparison of *Cutting-Edge Advocates* versus *Old-School Sceptics* Business Developer types based on various criteria, e.g. affinity, usage intensity, etc.

f) The suggested *guidelines or strategic recommendations* for practitioners on Social Media Business Usage (e.g. Content Design) in Business Development.

Overall, these contributions might help to define and contribute to an innovative Return-on-Business Development concept and Social Media measurement instrument responding to articles by Hoffman and Fodor (2010); Gilfoil and Jobs (2012); Peters et al. (2013). This means that the intensity of Social Media operated in B2B-Business Development is the usage level embraced by targeted decision-makers and experts who recognise the measurable positive impact of Social Media Usage on B2B-Business Development profitability.

1.8 Overview of the Study

Chapter 1: This chapter introduces the doctoral research project. It provides a general background and overview and discusses the context, idea, and development of the research undertaken. This enables the reader to progress in understanding the research objectives, research questions, involved methodology, conceptual framework, and scholarly and managerial contributions.

Chapter 2: The literature review is guided by the research question to lay a multidisciplinary knowledge base, on which the study unfolds (Jesson et al., 2011; Joyner et al., 2012). There are three areas of focus.

Firstly, a definition and selection of professional Social Media were established by the unique requirements of B2B-Business Developers in a specific software solution environment characterised by small, medium-, and large-sized companies.

Secondly, the concept of B2B-Business Development is discussed to understand its classification in the context of adjacent corporate functions. Peer-reviewed articles of Entrepreneurship, Relationship Marketing, Sales, and Technology are taken into account to clarify the definition and description of the concept B2B-Business Development. This includes a discussion of the underlying perspectives particularly relevant to the different process phases. It is evident that the insufficient academic literature, regardless of the extensive practical knowledge, makes it difficult to provide a precise and all-encompassing definition of B2B-Business Development in the software environment like ERP, MES and Cloud Technology. Though B2B-Business Development is found to have interfaces with Marketing and Sales, there are only a few common themes across the industries.

Thirdly, Social Media is brought together with B2B-Business Development, and a significant focus is the discussion of underlying concepts, i.e. Social Capital and Usage Criteria to detect and better understand the different types of B2B-Business Developers.

Finally, Business Performance is reviewed from qualitative and quantitative angles. Essential theories and concepts are identified and discussed in more detail. This chapter lays the conceptual or theoretical foundation for the research model and hypotheses discussed in Chapter 3.

Chapter 3: This chapter introduces the modified conceptual research model. Thereby, the fundamental concepts identified and discussed in the literature review verified by the viewpoints of practitioners are considered.

The chapter then presents the modified research model with the streamlined number of hypotheses and measures referring briefly back to the literature review and findings of the pilot study in preparation for the empirical study.

Chapter 4: This chapter sets out the author's philosophical position against the backdrop of worldview, value system and in light of the research question. It then presents the mixed methods approach for purposes of triangulation to study the research question. The previous data gathered from the semi-structured interviews with key informants are complemented by the pre-test in preparation for the online survey. Also, this chapter discusses the pursued research design, data collection and analytical procedures and measurement model validity and reliability to create greater confidence in the results. The chapter closes with a discussion of the structural model predictive relevance.

Chapter 5: Initially, this chapter presents the quantitative data analysis with IBM SPSS Version 23, and discusses the outcome of the measurement framework, the research model and hypotheses to be tested. This chapter discusses the initial and final sample data by looking at the descriptive statistics and underlying relationships. It also tests the reliability and validity of the final sample data for the inherent constructs forming the Business Development/Performance Structural Equation Model. The hypotheses concerning the interrelationships among Social Media Business Usage, Business Development process phases, Underlying Concepts and Business Performance are tested in a nomological net via Structural Equation Modelling with IBM AMOS Version 23. The measurement framework, proposed research model, and hypotheses are subject to further plausibility probe to ensure a significant contribution (e.g. focusing on the *High* Social Media User.) This chapter evaluates the survey data, statistical analyses and likely outcome along with specific reasons for Social Media (non-)usage to provide sufficient evidence for meaningful conclusions.

Chapter 6: This chapter connects the findings of the literature review with those of the suggested research objectives and questions by addressing particular managerial issues. The quantitative analyses, descriptions and interpretations address current challenges relevant to individual practitioners and their organisations to develop strategic recommendations, and practical guidelines for implementation. This chapter concludes with a discussion of the major outcome for practitioners.

Chapter 7: This chapter contains the key conclusions that emerged from this study. On the basis of the preceding chapters it summarises and interprets the principal research findings. It then highlights the contributions to the existing body of knowledge and implications for practice. Specific managerial recommendations will be presented on the basis of the findings and conclusions. This chapter closes with the limitations and recommendations for further research.

2   Literature Review

The purpose of this chapter is to acquire a thorough understanding of the concepts, theories, and frameworks within the scope of this study. It serves to develop a robust research model and a set of research questions to address the identified research gaps (Jesson et al., 2011; Remenyi and Bannister, 2012).

2.1   Introduction

To achieve these objectives, the chapter reviews the areas and the primary research lenses, as presented in Figure 2.1. Thereby, it sets the context in which this study is carried out and provides the structure for configuring the research model.

Figure 2.1 Interdisciplinary Research Areas and Lenses
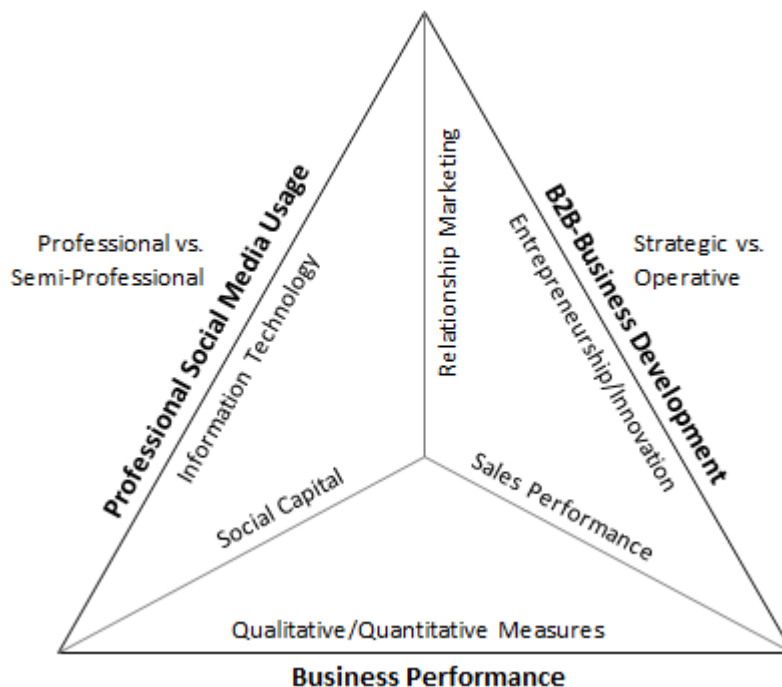
The first section of this chapter discusses Social Media technologies against several backdrops. In particular, the existing literature on B2B-Business Development overlooks that Social Media technologies become increasingly critical to B2B-Business Development activities for example by deeming B2B-buyer-supplier relationships as "a source of competitive advantage" (Ulaga and Eggert, 2003,8), a means of pursuing profitable opportunities (Tang et al., 2012), or to put it succinctly as the "most valuable asset" (Brennan and Croft, 2013,1). Moreover, the B2B-Business Development literature has not yet recognised the intra-generational changes in conjunction with the Internet-based business communicational evolution affecting the closely related Marketing and Sales processes (Mangold and Faulds, 2009; Bolton et al., 2013; Royle and Laing, 2014).

These changes are used to detect different types of Business Development professionals related to their technology/media usage behaviour. While *Cutting-Edge Advocates* tend to use Social Media more intensively, *Old-School Sceptics* avoid regularly engaging in these platforms (Brennan and Croft, 2012; Wolfsfeld et al., 2013). Anticipating the prominence of Social Media in B2B-Business Development processes within the global software environment, this review seeks to identify and classify the most suitable Social Media platforms from a large number of available media based on the Information Systems/Management literature.

The second section of the chapter sets out to review the B2B-Business Development relevant literature. Though the concept of B2B-Business Development has become essential and integral part of today's competitive environment in the software industry, there remains ambiguity concerning its definition. B2B-Business Development is little noticed in academic research and, if at all, it is primarily about the adjoining areas, Entrepreneurship/Innovation (Davis and Sun, 2006; Giglierano et al., 2011), Relationship Marketing and Sales Technology/Performance (Agnihotri et al., 2012; Brennan and Croft, 2012; Zaki et al., 2013).

The adjoining areas are analysed to the extent that they apply to the distribution of global software solutions. For instance, the marketing and sales literature will be discussed from the perspective of complex B2B-software solutions and services requiring a rather relational than transactional approach. This means that the research focus is on the development of long-term business relationships with recurring income streams in contrast to short-term transactions which are more common in B2C. Thus, the review of the literature is confined to specific 'schools of thought' insofar as they are relevant and valuable to this particular B2B-research context and framework.

Reviewing the interfacing areas and constraints to literature mentioned before serves the purpose to identify and define critical B2B-Business Development process phases being appropriate for both scholars and practitioners. Thus, on the one side, Business Development is examined from its corporate liaison function and process orientation. On the other side, B2B-Business Development is explored from the particular skills, competence and experience being required on the part of B2B-Business Development professionals to market global software. This underlines that B2B-Business Development represents one of the major constituents of the analytical framework aligning the essential concepts, constructs and research question(s). Based on this framework and the qualitative research the conceptual model evolves.

The third section merges Social Media Usage with B2B-Business Development. In this context, two underpinning concepts are worthy of attention. Firstly, what usage criteria are essential during the different phases of the B2B-Business Development process? Secondly, what is the potential influence of accumulated Social Capital (Van Deth, 2003; Lin, 2008) which bears benefits like enhanced information access and quality (Adler and Kwon, 2002) as well as risks such as strong ties discouraging new members from joining social networks (Li et al., 2013).

The fourth section of the literature review discusses Business Performance concepts such as Return-On-Relationships, Relationship Quality and Value Co-Creation (Gummesson, 2004; Lambert and Enz, 2012; Vieira et al., 2014). The 'raison d'être' and the ultimate goal of Social Media Usage within B2B-Business Development presumably contributes more or less directly to the overall Business Performance in the sense of generating new or recurring revenue streams. Moreover, this section answers the research call by Hoffman and Fodor (2010); Edosomwan et al. (2011); Jussila et al. (2011) for Social Media performance measures.

Overall, the interdisciplinary research approach with the disciplines presented below remains the thread running through the entire literature review.

Table 2.1 Summary Outline of Chapter 2

Section	Comments
2.1 The Call for Social Media	Provides the impulse to research this topic.
2.2.1 Social Media in B2B	Reviews the Social Media usage as possible research arena in the B2B-context. Provides a distinction to Traditional Media. Defines and determines the relevant set of platforms in accordance with prevailing theories and introduces underlying concepts to enhance the media impact.
2.2.2 Information Technology	Reviews the literature on Information Technology to underpin the engagement of Social Media as part of Information Technology in B2B-Business Development.
2.3 Business Development as Research Focus	Classifies Business Development (BD) within the core operational functions relevant to the B2B-software (ERP/MES/Cloud technology) environment.
2.3.1 Relationship Marketing and Sales Technology/Performance	Discusses and defines prevailing concepts and 'Schools of Thought' to understand the processes of B2B-Business Development and its coordination function concerning primarily Relationship Marketing and secondarily Sales Technology/Performance.
2.3.2 Entrepreneurship and Business Development	Examines the research relevant aspect of the entrepreneurial opportunity construct and the similarities, differences and reciprocal influences of Entrepreneurs and Business Developers. Reviews the general and specific themes of Business Development within the organisational context and discusses the liaison role of B2B-BD between Marketing and Sales.
2.3.3 Social Media Usage in Business Development	Classifies and assigns possible types of Social Media to major B2B-Business Development process phases.
2.4 Performance Measures	Presents and discusses the current qualitative and quantitative Business and Social Media performance measures.
2.5 Synthesis	Ties the concepts together and illustrates the research gaps. It encapsulates the underlying theories and practitioner views to the various constructs.

The literature review does not claim to be all-inclusive. References in the form of tables at the end of each section encapsulate the prevailing view of leading experts. These tables contain relevant concepts and elements of theory which contribute extensively to the research objectives and questions.

Consequently, the purpose of this chapter is to provide a conjectural defence for the conceptual model, the hypotheses, and methodology as a basis for organising, interpreting and discussing empirical findings. The chapter closes with a discussion of the critical concepts followed by conclusions to transition to Chapter 3 which outlines the research model and hypotheses.

2.2 The Call for Social Media

In recent years, Social Media has increasingly drawn attention in academic journals. Liang and Turban (2011,5) pointed towards Social Media as "one of the most challenging research arenas in the upcoming decade". Rodriguez et al. (2012,365) observed that the "utilisation of social media for reaching business-to-business clients is a relatively new phenomenon with performance outcomes essentially unknown".

2.2.1 Social Media in the Business-To-Business (B2B) Context

In particular, Social Media usage is viewed as emerging in B2B because of the limited interest and delayed acceptance ascribed to new technology barriers (Buehrer et al., 2005; Michaelidou et al., 2011; Agnihotri et al., 2012). Other reasons for a deferred adoption of Social Media are their perceived unimportance to B2B-buying decisions, their questionable contributions to ROI-metrics and the vague understanding of how to realise their potential in organisations (Vuori and Väisänen, 2009; Gupta et al., 2011; Agnihotri et al., 2012; Bernard, 2016).

The majority of scholars agrees that Social Media enables nurturing B2B-relationships (Safko and Brake, 2009; Diffley et al., 2011; Michaelidou et al., 2011; Brennan and Croft, 2012). Even though Brennan and Croft (2012) argue, Social Media is preferably suitable for *soft marketing* than for *hard-sell*, Avlonitis and Panagopoulos (2010); Rodriguez et al. (2012) underline their substantial impact on B2B-sales processes/performance.

A global study by Ogilvy One (2010) shows the severe impact of Social Media on buyers' information quests by providing digital footprints for developing leads with nearly 2/3 of top performers viewing Social Media pertinent to sales performance. Social Media supports the branding strategy, particularly in the high-tech industry where buyers increasingly identify with brand names, perceive brand differentials (e.g. knowledge, reputation), and tend to be brand-loyal (Michell, 2001; Bendixen et al., 2004; Kotler and Pfoertsch, 2007; Brennan and Croft, 2012; Laroche et al., 2012). The interest of Social Media research in B2B-Business Development may be justified by the fact that these media fulfil various roles within the similar relationship and sales cycles (Andersen, 2001; Rodriguez et al., 2012; Rodriguez et al.,

2014). For example, Social Media interactions can be used to build awareness (electronic word-of-mouth) throughout the *pre-relationship-phase*, collect customer data for profiling or sharing information for germane conversations and establish relationships with the benefit of obtaining referrals during the *development-phase* (Money et al., 2010; Andzulis et al., 2012; Rodriguez et al., 2012) and preserve brand reputation within the *termination-phase* (Helm and Jones, 2010; Kaplan and Haenlein, 2011b). Moreover, Andzulis et al. (2012) emphasise that Social Media necessitate the collaboration between marketing and sales being realised through the liaison role of Business Development.

2.2.1.1 Social Media versus Traditional Media Business Usage in B2B

Social Media comprise digital communication/information media, virtually accessible 24-7, on a global scale, overriding any market barriers (Winer, 2009; Hennig-Thurau et al., 2010). Besides the ease, lower cost, and extent of usage, Social Media differentiate themselves from Traditional Media by the interactivity, relevance, and velocity of the disseminated information (Harris et al., 2013; Luo et al., 2013). Their availability is immediate and permanent (Katona and Sarvary, 2014).

While Traditional Media are abundantly researched, it is worthwhile to investigate why B2B-companies engage increasingly in Social Media. Scholars are divided on whether traditional media should be replaced entirely or to what extent they might be applied individually or combined with Social Media (Hanna et al., 2011; Stephen and Galak, 2012). They signpost research gaps, how to adjust different media combinations to optimise processes like relationship-building.

Questions regarding effectiveness center around the replacement of face-to-face by computer-mediated communication (Walther, 1996; Rhoads, 2010) the de-/increasing impact of traditional communication on self-disclosure and whether less effective cold calling should be substituted by email-/social media marketing (Cano et al., 2005; Rodriguez et al., 2012; Schultz et al., 2012). Cano et al. (2005) see face-to-face communications as preferable in the entire B2B-purchase process which Wymbs (2011) relativises by suggesting a combination of traditional and social media. Hennig-Thurau et al. (2010); Sonnier et al. (2011) find that interpersonal communication shifts gradually to Social Media. Diffley et al. (2011) warn that behavioural changes towards a more intense Social Media usage might eventually supersede Traditional Media. The author agrees though Cano's view suits mostly the Sales process cycle, B2B-Business Development processes require a slightly different perspective. He argues in line with Rhoads (2010) that the nature of complex software sales processes which involves negotiations and dealing with uncertainty requires primarily face-to-face communication. In contrast, B2B-Business Development can be performed mainly using Social Media in line with Wymbs (2011); McCready (2013). There are exceptions, however, such as in the Aerospace & Defence industry as the pilot study findings indicated. Personal one-on-one meetings are preferred over Social Media communication because of individualised, sensitive information (data privacy and security). Thus, usage intensity and kind of communication vary with the particular processes and industry.

2.2.1.2 Determining the Relevant Set of Social Media in B2B

The study of the literature reveals that the overarching definition by Kaplan and Haenlein (2010,61) "Social Media is a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" represents a recognised starting point. This technological emphasis makes it possible and practical to consider specific Social Media in the B2B-Business Development cycle so far as they relate to and might improve certain process phases. A point in favour of using Social Media is that they allow professionals to participate in social networks which helps create valuable relationships through communication, collaboration, gathering and sharing information (Safko and Brake, 2009; Hennig-Thurau et al., 2010; Diffley et al., 2011; Brennan and Croft, 2012; McCorkindale et al., 2013). On the downside, however, Social Media usage might lead to the bombardment of electronic information which might be inundating, distracting or irrelevant.

Though the strategies of Social Media vary, scholars agree on this point that the usage aspect "is no longer a strategic business option, but a necessity, and a huge opportunity" (Argenti and Barnes, 2011,61). Which Social Media platform technology will finally prevail depends however on the related B2B-context, usage, and specific strategy as summarised in Table 2.2,24.

The idea to leverage Social Media as disruptive technologies in Business Development can be derived from their similar purpose and definitions. Table 2.2,24 provides a specification of selection criteria on which Social Media to engage at various points of the Business Development process (intended usage) which can serve as a guideline for practitioners. As such, the only remaining questions are what number and type of platforms to include in the research scope by defining them as *Professional Social Media*. This research follows the suggestion by Safko and Brake (2009) to limit the number of Social Media platforms, not just for evaluation and parsimony reasons, but also according to marketing strategic viewpoints.

Taken Smith et al. (2015) detected that nearly one-fifth of Fortune 500 companies do not use any Social Media, while of the remaining 80% a majority of 55% applies three to five platforms. Only an insignificant percentage uses the maximum of nine platforms. The content analysis by Brennan and Croft (2012) which investigates potentially relevant Social Media from the viewpoint of ten leading software companies in the UK provides clear indications. The authors infer that LinkedIn, Twitter, Facebook, and Blogging are the most frequently utilised platforms in B2B-Marketing which relates to B2B-Business Development. Cohen (2011); Agnihotri et al. (2012) regard social networking sites and online communities as essential for interactions like *prospecting* and *networking* being essential activities of B2B-Business Development. According to Brennan and Croft (2013), the purpose of blogs/microblogs is to produce digital content, stay connected to customers and learn more about what really drives the business requirements of buyers. While Twitter helps to find opportunities and is used to create brand communities, LinkedIn provides access to real names of key decision-makers (Itani et al., 2017; López and Sicilia, 2017).

Table 2.2 Social Media Definitions

Source	Intended Usage	Leading Application/Platform	Technology	Strategy
Safko and Brake (2009)	• Communicate, educate • Collaborate, entertain	• Facebook, LinkedIn, Twitter, Blog • Vast ecosystem	• Free Web-based applications	• Enable online conversations • Impact ease, speed + access
Vuori and Väisänen (2009); Rapp et al. (2015)	• Create and publish content • Identify + gather information • Share information/knowledge	• Blog, YouTube • Facebook, LinkedIn, etc.	• Web 2.0 called Real Simple Syndicate or Rich Site Summary (RSS)	• Gain competitive intelligence • Save time + information subscription costs
Gordon (2010); Libai et al. (2010); Diffley et al. (2011,47) cited by Hennig-Thurau et al. (2010,312)	• Participate in social networks • Create and share content • Communicate • Build relationships	• Facebook, YouTube, Google • Twitter • Online communities	• Online (emails, information search engines) • Mobile technologies • Recommendation systems	• Understand buyers • Measure the impact of blog Posts/Electronic Word of Mouth on relational outcome
Diffley et al. (2011)	• Collaborate + communicate • Create and share information + knowledge, media and ideas	• Social Networking Sites + Social Capital • Blogs	• Information Technology facilitating social interactions	• Impact purchase decision by Trust and tie strength • Two-way communication
O'Leary (2011)	• Communicate, interact socially • Discover knowledge • Develop trust + relationships	• Facebook, LinkedIn, Digg • Twitter, Yammer • Blogs	• Cloud based referred to Web 2.0 or Enterprise 2.0	• Integrate Supply Chain with other business concepts • Analyze partner + reputation
Brennan and Croft (2012)	• Content marketing, research • Networking, prospecting • Soft marketing not hard sales	• LinkedIn, Twitter, Facebook, Blogging key for B2B Marketing • Slideshare	• Web 2.0, a collection of open-source, interactive + user-controlled online app.	• Position brands as thought leaders in highly dynamic sector
McCorkindale et al. (2013)	• Communicate • Engage + build relationships	• Facebook	• Digital Media (Facebook)	• Understand motivation of Millennials (integration + social interaction need)

Another stream of literature advocates to exclude platforms which are used mainly personally or just semi-professionally. For instance, Facebook, Instagram, and YouTube belong to platforms generally prohibited by companies to maintain employee productiveness and IT security (Warr, 2008; Kaplan and Haenlein, 2010; O'Leary, 2011). Moore et al. (2015) make a clear distinction between *Professional* and *Social* (Personal) Networking Sites.

Though at first glance this argument seems to justify the exclusion of these platforms the author refutes this standpoint for the following reasons:

- The proportion of personal and business content on Professional and Social Networking Sites is subject to constant change in a dynamic evolving media landscape. For instance, Facebook has evolved from a previously strictly social forum with mostly personal content to a more business-like platform with professional content, i.e. brand posts (Brennan et al., 2015). Also, LinkedIn, the platform which was considered to be of a primarily professional nature, recently becomes increasingly semi-professional. Thus, the boundaries between Social and Professional Networking Sites have become blurred and might disappear in the near future.
- Changing user behaviour might affect the usage intensity. Also, providers of Social Networking Sites might restrict previously available options such as identifying and joining professional groups on LinkedIn.
- A myriad of new platforms (Myspace) vanishes as quickly as they have emerged (Moore et al., 2013).
- Certain generations or industries might include the Social Media Platforms for professional usage, which others might disregard as 'too personal' and 'less suitable' for their particular business model.

In the context of this research *Professional Social Media* include these media being feasible in Business Development processes tailored to the global software industry. These include Social and Professional Networking Sites like Facebook, LinkedIn, and XING; blogs and microblogs, i.e. Twitter. Google and YouTube are somewhat rare in practice, but this might change over time due to the dynamics of the Social Media ecosystem (Hanna et al., 2011).

Since the available quantity, type and usage intensity of Social Media platforms are constantly changing it is proposed to determine a relevant set but limit the number of engaged Social Media to impact Business Development processes efficiently and effectively. In the choice of a relevant number and set of social media platforms, the author considers scholarly and practitioner sources.

Kaplan and Haenlein (2010) identified four research *theories* which underpin Social Media platforms (Table 2.3). The relevant set of platforms is grey coloured. These Social Media seem not only to fit in the context, industry, and processes of this research but are also broadly endorsed in practitioner interviews.

Table 2.3 Classification of Social Media Platforms

Theory		Social Presence/Media Richness		
	Level	Low	Medium	High
Self-Presentation/ Self-Disclosure	High	(Micro) Blogs	Social Networking Sites	Virtual Worlds
	Low	Collaborative projects	Content Communities	

Source: Adapted from Kaplan and Haenlein (2010)

A higher degree of *Social Presence* characterised by *intimacy* and *immediacy* positively influences the social behaviour of suppliers and buyers. This implies that face-to-face conversations have greater *intimacy* compared to phone calls and live chats have greater *immediacy* than emails (Short et al., 1976 cited by Kaplan and Haenlein, 2010,61).

Conversely, higher levels of *Media Richness* tend to abbreviate the gathering and processing time of purchase-relevant information and mitigate the risk of complicated B2B-buying processes (Daft and Lengel, 1986; Ramos and Young, 2009).

Self-Presentation is critical to allow B2B-Business Developers to stand out from the crowd. Social Media profiles establish common ground if the following requirements are fulfilled. They should display the identity (type of photo), create a realistic impression (quality of published information) and demonstrate social performance (number and quality of contacts) to harmonise the B2B-Business Developer's self- and public image (Boyd and Ellison, 2007; Krämer and Winter, 2008; Kaplan and Haenlein, 2010). Thereby, it is critical to maintaining a healthy balance between *Privacy* and *Self-disclosure* (Altman and Taylor, 1973; Joinson and Paine, 2012; Schiffrin and Falkenstern, 2012). This might establish rapport, trust and favour with gatekeepers and key decision-makers in social media, phone, email or face-to-face interactions (Leary and Kowalski, 1990); (Goffman, 1959, Schau and Gilly, 2003 cited by Kaplan and Haenlein, 2010,62).

Privacy is the ability to make a suitable impression while managing critical information (Boyd and Ellison, 2007; Mesch, 2012). *Self-disclosure* involves the mutual exchange of adequate and relevant personal information (Simmons et al., 2010; Trepte and Reinecke, 2013). Compared to a face-to-face meeting, Social Media usually tends to increase self-disclosure assuming that sharing information and communications pursue a benign purpose. This is known as the 'online disinhibition effect' (Suler, 2004). The 'online disinhibition effect' might play a critical role in the initial phase of B2B-Business Development, like garnering business-sensitive information. Joinson and Paine (2012) notice that an increase of online self-disclosure tends to mitigate risk. This is in contrast to the findings of Schiffrin and Falkenstern (2012); Bolton et al. (2013). Excessive levels of self-disclosure appear unsound and result in social disapproval though higher levels dependent on gender and social background would be preferable (Schiffrin and Falkenstern, 2012).

Transferred to Social Media, lavish profile information might adversely affect the objectives to impress, create rapport, and trust in the initial B2B-Business Development process phase. Another damaging aspect is the risk of identity theft by misusing sensitive personal information (Donath and Boyd, 2004; Bilge et al., 2009; Bolton et al., 2013). *Trust* supports business developers to merit attention from potential buyers. Doney et al. (2007) relate *trust* to perceived credibility and benevolence. When buyers realise that business developers act on their behalf, they mitigate their risk and tend to perceive the software as the best solution. While trust is widely researched based on the KMV model by Morgan and Hunt (1994), Boyd and Ellison (2007) advocate that information sharing on Social Networking Sites is affected by online trust and usage objectives.

Thus, from the platforms classified by Kaplan and Haenlein (2010), the combination of *Social Network Sites* (including online-communities) and *Blogs/Microblogs* appears particularly relevant for this research, not least because practitioners apply them in their day-to-day work (Brennan and Croft, 2012; Alves et al., 2016).

Social Network Sites (SNS) are "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from site to site" (Boyd and Ellison, 2007,211).

Facebook and LinkedIn are networking platforms to accumulate relationships, gain new customers in online-communities, uphold communication, share information and endorse trusted contacts (Boyd and Ellison, 2007,11; Brown et al., 2007; Rodriguez and Peterson, 2012; Panahi et al., 2012; Weidman et al., 2012; Kazienko et al., 2013,101). XING is similar to LinkedIn the leading platform in the DACH region (Kazienko et al., 2013; Rauniar et al., 2014).

Blogs appear essential to update potential buyers on unique information and engage them in authentic conversations with bloggers (thought-leaders) while Microblogs serve for press-releases. Content communities like YouTube serve as media to share instructional content (Cheung and Lee, 2010; Kaplan and Haenlein, 2010; O'Leary, 2011; Brennan and Croft, 2012; Rodriguez and Peterson, 2012).

2.2.1.3 Theories underpinning Social Media Usage

The concept of *Social Capital* underpinned by *Strength-of-Weak-Ties* theory, (Granovetter, 1983) might reinforce the effectiveness of Social Media Usage in B2B-Business Development. For instance, through contact intensity and contact authority, the number and quality of generated opportunities can be increased in a shorter period.

Some scholars expressed concern that the intensive use of new technologies, e.g. the internet would be exclusively at the expense of face-to-face interactions (Nie, 2001; Schiffrin et al., 2010).

A contrary indication is the fact that increased Social Media usage usually does not necessarily substitute face-to-face interactions which mainly take place in the Sales phase after the B2B-Business Development process is concluded.

Moreover, intensive Social Media usage during the Business Development process positively affects the accumulation of Social Capital by conveying and strengthening the sense of belonging and self-respect (Ellison et al., 2007; Rodriguez et al., 2012; Bolton et al., 2013).

Facets of Social Capital Theory (networks, trust, norms, and values) affect social interactions in virtual communities/LinkedIn groups and facilitate less-risky and fast-moving B2B-transactions (Granovetter, 1983; Tsai and Ghosal, 1998; Van Deth, 2003; Baehr and Alex-Brown, 2010; Rodriguez et al., 2012; Carvalho and Fernandes, 2018).

Social Capital as goodwill of social networks involves the "investment in social relations with expected return" (Coleman, 1988; Adler and Kwon, 2002; Lin, 2002,19). Based on Social Support, Trust Theory, social business-related activities (e.g. Endorsements/Likes on LinkedIn and Twitter) might strengthen the image of B2B-Business Developers to be perceived as trusted advisors (Liang and Turban, 2011). Social Capital stimulates the "interact[ion], engage[ment] and establish[ment] of relationships" (Agnihotri et al., 2016,172).

Therefore, Social Capital might accelerate or moderate the link between B2B-Business Development processes and new business transactions (Lin, 2002; McEvily and Marcus, 2005; Chiu et al., 2006; Baehr and Alex-Brown, 2010; Rodriguez et al., 2012).

Granovetter (1983) argues that salient business information can be accessed and disseminated more likely through 'weak tie' than 'strong tie' connections. This means that Social Capital can bridge 'weak ties' or distant acquaintances from different backgrounds in addition to 'strong ties' which represent close bonds in similar social circles like peers (Putnam, 2000; Ellison et al., 2007; Diffley et al., 2011). It is reasonable to conclude that B2B-Business Developers "deliberately expose themselves to different sources of information, striking up conversations (...) with acquaintances [weak ties]" to enhance the chance to generate opportunities (Peppers, 2013). Thereby, Social Networks can be useful in gaining quality information, endorsements, and increase boldness in asking for the support of gatekeepers (Granovetter, 2005).

In contrast, some scholars point out potential risks consisting of the "considerable investment in establishing and maintaining relationships" or overreliance in specific networks (Adler and Kwon, 2002,30). Also, they mention potential contra-productive effects of Social Capital in developing new business by inhibiting new members from joining networks or forcing decisions through 'strong ties' (Li et al., 2013). This research does not anticipate these tendencies and is rather in line with Agnihotri et al. (2012) suggesting that a critical Social Media strategy in building relationships with prospective buyers should include the accumulation of Social Capital.

Baehr and Alex-Brown (2010) describe the value of Social Capital, individually and mutually from a structural (social ties), relational (trust and trustworthiness), and cognitive (shared code to pursue collective goals) perspective and Luczak et al. (2014) notice a link between social ties and economic, relational, and intellectual capital. Engelen et al. (2016) noted that Social Capital (network ties) among top managers might reveal the insights to enhance strategic decisions and business performance.

Social Capital will be applied as one of two moderators in the research model (Chapter 3) since it is expected that it provides significant assistance in enhancing the outcome of the Business Development process.

Other aspects of the literature considered are *Usage Criteria* which imply behavioural differences in Social Media interactions. Socio-demographic criteria like *Gender, Age Groups, or Generations* sometimes reveal disparities relating to technical savviness and usage intensity (Ramos and Young, 2009; Correa et al., 2010; Porter et al., 2012).

In particular, the generational research has an important part (Howe and Strauss, 2007; Jones and Fox, 2009; Schultz et al., 2012). Generation is defined as the years of birth, usually a 20-25-year period from being born, growing up and having their own offspring. Generational cohorts are described as groups of individuals belonging to the same age bracket, undergoing similar life experiences and memorable events, shaping their values, attitudes and belief systems, yet differing from other cohorts (Strauss and Howe, 1991; Schewe et al., 2000; Brosdahl and Carpenter, 2012; Bolton et al., 2013).

The relevant generations considered in this research are the Baby-Boomers (1943–1960), the Generation X (1961–1981) and the Millennials or Generation Y (born after 1981), with sometimes overlapping age brackets (Howe and Strauss, 2007; Brosdahl and Carpenter, 2012). Compared to the Baby-Boomers, also named Digital Immigrants, the Millennials or Digital Natives share their upbringing with computer technology, social networking interactions and online communities (Prensky, 2001; Howe and Strauss, 2007; Bennett et al., 2008; Palfrey and Gasser, 2008; Bolton et al., 2013).

Applied to B2B-Business Development, there might be professionals who tend to be more technologically savvy and intensive users of Social Media (Senecal et al., 2007; Schultz et al., 2012). This is in contrast to those professionals who might use the Internet just for emails or enquiries (Jones and Fox, 2009). Thus, *Usage Criteria* will represent the second moderator in the research model to influence the Business Development process.

2.2.1.4 Discussion

The review of regularly quoted articles on Social Media (Tables 2.4 and 2.5,32–33) shows that there is mostly agreement regarding the usage purposes. Different media can be applied more or less according to the particular B2B-Business Development process phase and according to their usefulness for the particular activity like sharing information and knowledge (Chiu et al., 2006; Vuori and Väisänen, 2009; Diffley et al., 2011) or leveraging networks of connections to build or nurture relationships (Rodriguez et al., 2012; Schultz et al., 2012). Since perceptions of usefulness or usability propel the usage of Social Media (Lacka and Chong, 2016), it can be concluded that Social Media technology is transferable to the B2B-Business Development cycle discussed in Section 2.3.3 in line with Marshall et al. (2012).

In the seminal literature, it is variously criticised that research has been done primarily on salespeople. This may lead to a biased perception since cross-functional professionals remain unconsidered (Agnihotri et al., 2012). Social Media is used by vendors throughout the business development/sales process. Buyers mainly apply Social Media for market research and to establish relationships with (potential) vendors to enhance the buying process (Andzulis et al., 2012; Itani et al., 2017).

By focusing on the vendor-side while neglecting the buyer-side, another gap occurs (Schultz et al., 2012). Bauer et al. (2002) pointed to a close association of technology usage and commitment, trust and satisfaction between B2B-buyers and suppliers, suggesting to extend the sampling. Schultz et al. (2012) recommend to include the buyer-side as well and Peters et al. (2013,282) state that Social Media facilitate egalitarian communication which includes buyers and third-parties. Therefore, the research was also extended to these professionals.

With reference to the research objectives this thesis argues that by taking the buyer-side into account, the effectiveness of certain Social Media, the mixed use of Social and Traditional Media and the significance of individual Business Development process phases might be emphasised or even differently rated.

Other gaps in the literature related to answering questions: what kind of Social Media platform combinations should be engaged, and what might be potential costs and benefits (Schultz et al., 2012; Trainor et al., 2014).

In this context, it is crucial to determine the suitable level of *self-disclosure* and *usage intensity* of Social Media to improve the relationship between buyer and supplier. Concerning self-disclosure, the author suggests regularly reviewing the profile information dependent on which contacts should be targeted. Another option consists of creating different Social Media profiles which cater to the broadest range of audiences. The underlying idea is that *trust* and *reputation* are established by disclosing accurate profile information enhancing the exchange of relevant information (Joinson et al., 2010; Andzulis et al., 2012; Brennan and Croft, 2012; Mesch, 2012).

Intense Social Media usage reinforces the trust and bonding between buyer and supplier, i.e. social influence being supported in the literature (Cano et al., 2005; Papacharissi, 2009; Caers and Castelyns, 2011).

With reference to the research objectives, this work seeks to determine the relevant number and set of Social Media by considering the characteristics of Business Development in the software context to avoid inefficient media usage (Kaplan and Haenlein, 2010; Kaplan and Haenlein, 2011a).

Although studies found that Social Media Usage impacts relationship-based sales performance, there have been no clear indications whether outcome-oriented performance can be improved (Hoffman and Fodor, 2010; Gilfoil and Jobs, 2012; Schultz et al., 2012). This poses another research gap referring to the impact on generating new profitable business opportunities by leveraging relevant Social Media and taking underlying concepts like Social Capital and Usage Criteria into account. The Information Technology literature in Section 2.2.2 yields further insights.

Table 2.4 Journal Articles 1–3 to Social Media

Source Cited by [#] on Google Scholar	Chiu et al. (2006) [2679] Understanding knowledge sharing in virtual . . . *Decision Support Systems*	Vuori and Väisänen (2009) [19] The use of social media in gathering and sharing . . . International Conference on Electronic Business	Hennig-Thurau et al. (2010) [1183] The impact of new media on customer relationships *Journal of Service Research*
Objective	• Find the motivation for knowledge sharing in online communities	• Harness Social Media for information/knowledge sharing	• Provide a conceptual framework for the impact of new media on relationships
Definition Social Media (Networks) (SNS)	• Online communities with mutual objectives to share information and knowledge (1873)	• Share information/knowledge and facilitate collaborative, competitive intelligence (1)	• Social networks to create and share content, communicate and build relationships (312)
Research Lenses/ Context	• Social Capital Theory • Knowledge Sharing (Competitive Advantage)	• Competitive Intelligence • Information Gathering + Sharing	• Communication/Information-Gathering • Measuring of Activities and Relational Outcome
Research Nature	• Conceptual/Empirical	• Exploratory	• Conceptual/Exploratory
Dimensions/Variables	• Three IV: Structural (Social Interaction Ties) Relational (Trust), Cognitive (Shared Vision) • Two DV: Quantity/Quality of Knowledge	• Process: Information Sourcing, Identification, and Gathering • Social Media Activities + Applications	• Brand Attitudes: Satisfaction, Liking, Motivation and Perceived Benefits • Media Attitudes: Utilitarian, Social + Psychological
Sample Size (Company Size, Industry, Region)	• 310 professional members of Virtual Communities	• Not Applicable	• Not Applicable
Research Methodology Qualitative/Quantitative	• Confirmatory Factor Analysis	• Literature Review, Case studies	• Literature Review
Leitmotif	• Expected personal outcomes have an adverse effect on the quantity of Knowledge Sharing • Social Ties, Reciprocity and Identification, have a positive effect on the quantity of Knowledge Sharing	• Information Gathering: Blogs add value and are positive for knowledge sharing in business processes; SNS transfer best practice/training • Information Sharing: Customer share information to develop and brand products	• The spread of negative/positive Electronic Word of Mouth in online communities • Knowledge Sharing leads to bonding and solidarity • Technologies: Bots to search and recommend the information
Notable Results/ Conclusions	• The Concept of Social Capital facets to affect knowledge sharing in virtual communities • Social interaction ties (Relationship Strength), trust, reciprocity lead to higher quality and quantity of knowledge sharing	• Social Media support in Identification • User-generated content improves corporate Knowledge Transfer (Provider –Receiver) • Social Networks (LinkedIn) for inter-organisational Knowledge Sharing	• Relationship Management with New Media have a multiplying and interfering effect with Marketing • Mobile Media to gather information • Automated Recommendation System for individualised products and services
Future Research Questions	• Examine changes in expected Social Capital and outcome over time and compared to knowledge sharing? • Create and accumulate Social Capital (How?)	• Combination of Social Media and Competitive Intelligence is a novelty that needs further case studies	• None

Source: Author (2012–2017) this table briefly summarises the content of the journal articles cited.

Table 2.5 Journal Articles 4–6 to Social Media

Source Cited by [#] on Google Scholar	Diffley et al. (2011) [90] Consumer Behaviour in Social Networking Sites *Irish Journal of Management*	Rodriguez et al. (2012) [169] Social media's influence on B2B . . . *Journal of Personal Selling + Sales Management*	Agnihotri et al. (2016) [132] Social Media: Influencing customer satisfaction . . . *Industrial Marketing Management*
Objective	• Examine how Social Networks may involve customers participating in SNS Marketing	• Investigate the impact of Social Media on Sales process and performance	• Test a model of the mediating effects of salesforce information/communication behaviours between social media use and customer satisfaction
Definition Social Media (Networks) (SNS)	• Tools which allow to participate, collaborate, communicate, share knowledge (47)	• Share content, build a network of connections online (365)	• Any social interaction enhancing the technology that is deployed by sales to generate content (173)
Research Lenses/ Context	• Relationship Marketing • Social Capital/Strength-of-Ties Theory	• Sales Technology (Adoption) • Social Capital Theory	• Value Creation (Customer satisfaction/Sales Responsiveness • Information/Communication Technology
Research Nature	• Exploratory	• Conceptual/Empirical	• Conceptual/Empirical
Dimensions/Variables	• New versus Traditional Media • Relationship Marketing, Prosumer • Short Head (Traditional) versus Long Tail (Online)	• Social Media Usage • Create opportunity, understand the client, manage relationships (Sales process) • Relationship/Outcome-based Performance	• Social Media Usage • Information/Communication • Age, Education, Experience • Organisation Level (Industry, Firm Size)
Sample Size (Company Size, Industry, Region)	• Five Age groups, Non-Students and Students • Irish SNS users	• An online survey of 1,699 Sales executives (vendor-side), 25+ industries in 40 countries like Australia, Germany, UK and US	• An email survey of 1,238 B2B-Sales Professionals • Large range of companies and industries • US
Research Methodology Qualitative/Quantitative	• Face-to-Face Focus Groups	• Confirmatory Factor Analysis • Structural Equation Modelling	• Exploratory Factor Analysis • Structural Equation Modelling
Leitmotif	• Motivators to participate in SNS (Means to communicate and build relationships) • Relationship Marketing (Interactive, Virtual)	• Positive (No) Link between Social Media Usage and Sales process/Relationship (Outcome-) based Sales Performance	• Positive Links between Social Media Usage and Information/Communication; its mediating effect between Social Media Usage + Customer Satisfaction; Sales responsiveness + Customer Satisfaction.
Notable Results/ Conclusions	• Positive Pull versus Negative Push Marketing affects SNS potential • Connections affect attitudes • Corporate website design/online groups affect communication and trust	• Social Media Usage influences ability to create opportunities and manage relationships	• Using Social Media indirectly affects the responsiveness of professionals and responsiveness relates positively to customer satisfaction. • Provide practical guidelines to plan the processes of information gathering and sharing by Social Media.
Future Research Questions	• Quantitative Research to allow generalisation of focus groups findings on the Irish population	• Include besides Salespeople, Marketing professionals to provide additional validity • Merge vendor + buyer in a longitudinal study	• Consider different amount and uses of Social Media • Include also Buyer-side • Longitudinal Study

Source: Author (2012–2017) this table briefly summarises the content of the journal articles cited.

2.2.2 Social Media against the background of Information Technology

Social Media sites fall as internet technologies similar to CRM or salesforce automation systems under the broader category of Information Technology (Avlonitis and Karayanni, 2000; Rauniar et al., 2014). Also known as inter-organisational Information Systems, they are integral components of successful Relationship Marketing and Sales Strategies (Avlonitis and Karayanni, 2000; Hunt et al., 2006).

The access to these new technologies alone is not sufficient to affect the intended performance associated with it. It requires intensive technology usage in the sales activities to enhance performance at least indirectly. Based on the Task-Technology-Fit Theory by Goodhue and Thompson (1995) scholars like Ahearne et al. (2008) assume that it takes proper technology usage to impact performance. This is supported by Rodriguez et al. (2014) and Wilcox and Sussman (2014) expecting that Social Media usage will eventually improve sales activities and performance. Clearly, these studies highlight the vital research need of advanced technologies in the Marketing and Sales function. Thus, the author assumes that new technologies are critical to aligning both sales and marketing processes through the coordination function of Business Development.

2.2.2.1 Technology Usage and Performance

The business value of technology investments is mainly determined by the way this technology is used (Kohli and Grover, 2008; Rodriguez et al., 2014). In contrast to the extensively studied impact of Information Systems (IS) on Business Performance, the research about Social Media contribution to Return-on-Investment is rather limited (Gilfoil and Jobs, 2012). Though technology usage and sales performance are associated, the facilitating mechanisms remain un-researched (Ahearne et al., 2007). Several models assist in comprehending user attitude, usage behaviour, costs, and benefits of Social Media in light of the effectiveness of communications and information technologies (Petter et al., 2008; Rauniar et al., 2014).

One of the fundamental models in the literature is the Technology Acceptance Model (TAM) by Davis et al. (1989) which draws on the Theory of Reasoned Action (TRA) by Ajzen and Fishbein (1975) see below. TRA suggests that beliefs in relation to Social Media technology benefits mediate the influence of external factors on behavioural decisions to implement Social Media platforms or tools. The TAM model describes how extrinsic motivational factors like perceived usefulness and perceived ease of use influence users to accept and indeed use new technologies.

Figure 2.2 Technology Acceptance Model
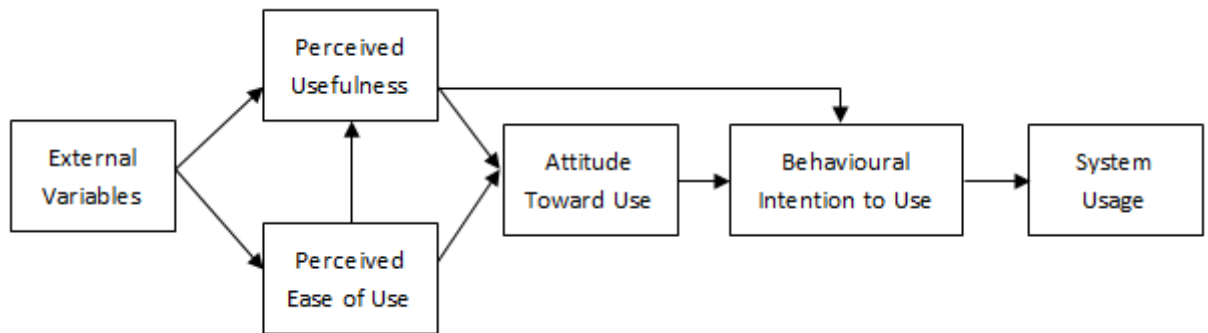
Source: Davis et al. (1989)

While *perceived usefulness* indicates how technology or system acceptance can improve performance, *perceived ease of use* refers to the effortless use or user-friendliness of a particular technology or system. Fundamentally, the users' beliefs influence their *attitudes towards technology usage* with the major conclusion that *perceived usefulness* seems primarily relevant to them in contrast to the *perceived ease of use* when it comes to engaging in technology (Davis, 1989). From numerous model modifications and extensions, the model revision by Rauniar et al. (2014) as shown below relates most closely to this research.

Figure 2.3 Revised Technology Acceptance Model for Social Media
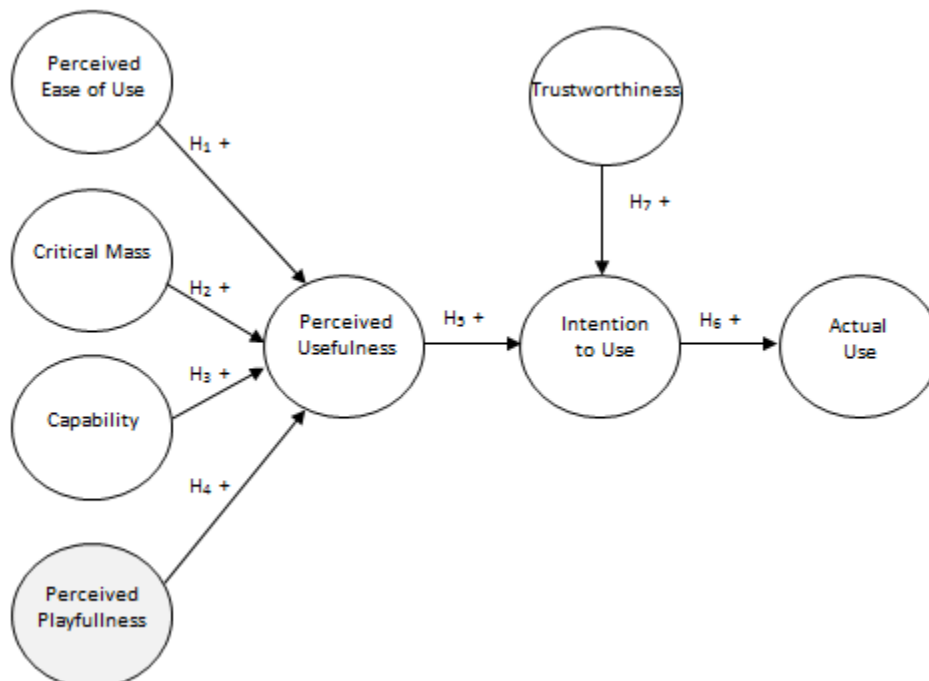
Source: Rauniar et al. (2014)

At first glance, the perceived playfulness (grey colour) seems unsuitable for work-related Social Media Usage. Davis (1989) argues that *perceived usefulness* refers to performance as a consequence of technology acceptance.

Technology acceptance is defined as the degree to which B2B-Business Developers integrate IT/Social Media technology into their daily activities (Ahearne et al., 2007; Brennan and Croft, 2012).

Original research neglected social media technology usage as unprofessional and personal entertainment. In contrast, Rauniar et al. (2014) consider *perceived playfulness*, i.e. gratification and entertainment apart from performance/outcome expectations as critical for technology usage behaviour. This implies that by combining work and pleasure, efficiency and effectiveness/performance can be increased.

B2B-Business Developers might improve initial prospecting by substituting harassing cold calls by referring to their social network in their conversations with gatekeepers (Schultz et al., 2012). Moreover, the findings by Lin and Lu (2011) suggest *enjoyment* as a pivotal factor to impact the behaviour of Social Networking Sites users. Pentina et al. (2014) argue in their cross-cultural study that *perceived usefulness* and *perceived ease of use* are not supported just because of cultural differences. While by US salespeople the adoption of Social Media depended on personal innovativeness, Australians were mostly influenced socially. According to Ahearne et al. (2007), the Technology Acceptance Model only makes a statement about the level to which B2B-Business Developers might incorporate Social Media into their daily activities. This means that this model is just a prerequisite but does not define effectiveness by itself (Petter et al., 2008).

2.2.2.2   Evaluating Technology Effectiveness

The model worthy of being mentioned is the original model by DeLone and McLean which measures the effectiveness of technologies and is depicted below. Both, quality of technologies and information affect the use and user satisfaction leading to individual and ultimately to business performance.

Figure 2.4 Original Information Systems Success Model
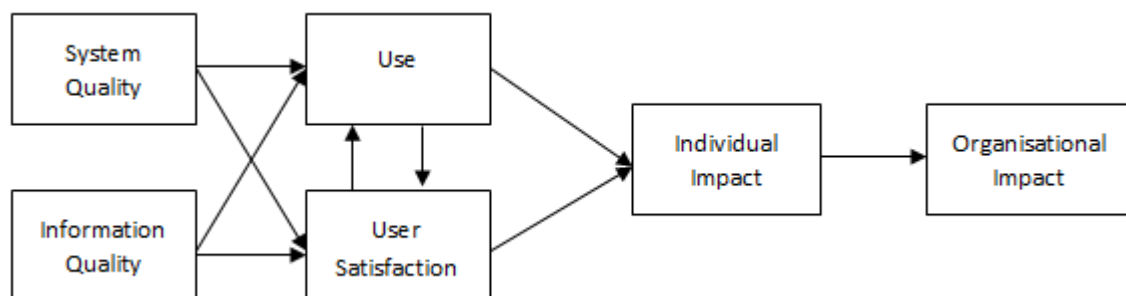
Source: DeLone and McLean (1992,87)

The updated model (Figure 2.5) is more suitable for this research. It differentiates between the intention to use (attitude) and the actual use (behaviour) and combines individual and organisational impact to net benefits being (negative) or positive based on user (dis)satisfaction. The latter one influences the intensity of technology usage.

Figure 2.5 Updated Information Systems Success Model
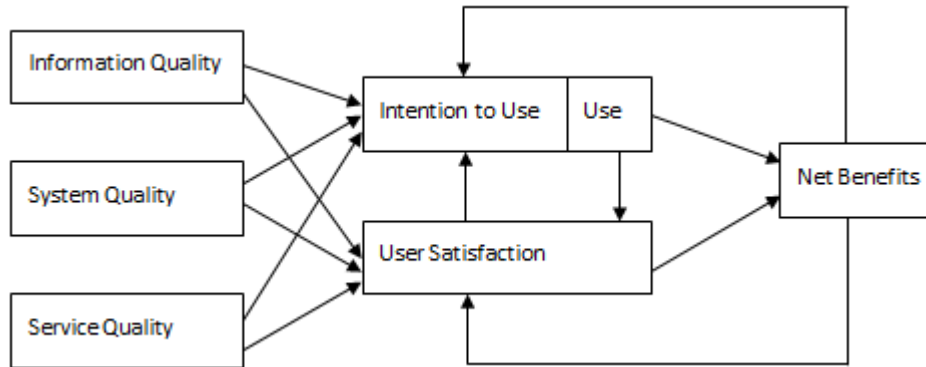
Source: DeLone and McLean (2003,24)

Apart from the measurements of effectiveness, Information Quality and System Quality depicted above apply to Social Media usage.

Considering *Information Quality* as a component of User Satisfaction instead of a single construct, however, makes evaluating the effectiveness of technologies problematic (Petter et al., 2008).

Figure 2.6,38 examines information quality from the dimensions *content* and *understanding* which is fundamental to B2B-Business Developers. Data and information are often used interchangeably (Pipino et al., 2002).

Hey (2004) differentiates between unprocessed information representing objective facts (data) and processed information (meaningful data). Gathered information pieces when brought into formation eventually lead to knowledge. B2B-Business Developers collect explicit (competitor) knowledge which is vital to B2B-relationships (Agnihotri et al., 2009; Cicala et al., 2012). However, at the outset, it is difficult for B2B-Business Developers to obtain tacit or informal knowledge (Davis et al., 2006).

This kind of knowledge is critical to determine the strategic fit between buyer and vendor as well as in operational B2B-Business Development activities to increase efficiency, value creation and effectiveness/performance (Nonaka and Konno, 2005; Arnett and Wittmann, 2014). Tacit knowledge will be more accessible in social networks once trustworthy relationships are established (Kline and Alex-Brown, 2013). Tacit knowledge is also critical to enhance performance and create a competitive edge (Panahi et al., 2012).

Wisdom is the "knowledge in the form of business intelligence" which assists in reaching the best business decisions over time (Thierauf, 2006,x).

Figure 2.6 Data-Information-Knowledge-Wisdom Hierarchy
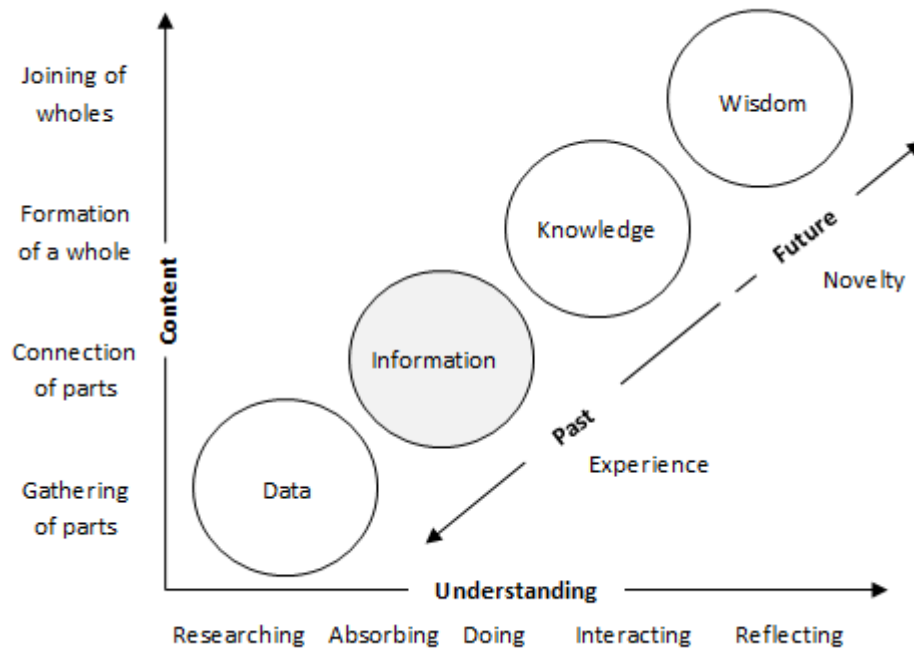
Source: Hey (2004,3)

The gathering and sharing of quality information require IT systems which provide for *ease of use*. Systems are perceived to be of a higher quality the more intuitively and stress-free their usage is. Nelson et al. (2005) found that information quality and system quality are critical for the adoption of new technologies. This specifically refers to Social Media technologies.

Martin et al. (1998) cited by Ryssel et al. (2004,198) state that IT technologies includes all existing and even not yet conceived forms of technology to create, communicate and exchange information. Brennan and Croft (2012,104) consider Social Media "as latest IT tools which are yet to be fully evaluated for business-to-business marketing" while Guesalaga (2016) considers Social Media important to render B2B-vendor-buyer relationships more effectively. Brink (2017) stresses the application of Internet communication tools/Social Media especially in SMEs to make the best use of limited resources and in industries facing fierce competition.

Tables 2.6 and 2.7 illustrate the underlying dimensions which are relevant to Social Media Usage and the retrieved information in the B2B-Business Development process.

Table 2.6 Dimensions of Information Quality and System Quality

Information Quality			System Quality		
Dimension/ Level	Definition	Category	Dimension/ Level	Definition	Category
Accuracy	Correct, unambiguous, meaningful, believable, and consistent information.	Intrinsic	Accessibility	System and Information it contains can be accessed relatively effortless.	Sytem-related
Completeness	Relevant states for user population are represented in the stored information.	Extrinsic	Reliability	Dependability/Technical availability of a system over time.	Sytem-related
Currency	Information is up-to-date or precisely reflects the current state of the world it represents.	Extrinsic	Response Time	System offers fast (timely) responses for request for information or action.	Activity-related
Format	Information is presented the way it can be under-stood and interpreted to complete the activity.	Extrinsic	Flexibility	System adaptability to various user needs and changing conditions.	Activity-related
			Integration	System facilitates the combination of information from numerous sources to support business decisions.	Activity-related

Source: Adapted from Nelson et al. (2005)

Table 2.7 Dimensions of Social Media Information Satisfaction and System Satisfaction

Understandability	Reliability	Usefulness	Access	Usability	Navigation
• Clear in meaning • Easy to read • Easy to understand	• Trustworthy • Accurate • Credible	• Informative • Valuable	• Responsive • Quick	• Connect to right contacts • Ease of Use • Well organised	• Ease of navigation • A few clicks to critical information
Web/Social Media Platform Information Satisfaction			Web/Social Media Platform System Satisfaction		
Web/Social Media Platform Satisfaction					

Source: Adapted from McKinney et al. (2002); Cheung and Lee (2008); Rauniar et al. (2014)

The effectiveness constructs illustrated in Figure 2.5,37 interrelate with both information and system quality or rather satisfaction. In particular, *system usage* incorporates the intensity, type, and purpose. *Satisfaction* refers to the measure of effectiveness of systems DeLone and McLean (2003) or the acceptance of these systems for business purposes (Petter et al., 2008). A survey of 200 manufacturing managers showed that engaged users were linked to *improved system usage* and *user satisfaction*. Likewise, a higher satisfaction led to higher usage intensity (Baroudi et al., 1986).

The net benefits of strong technology contributions include better decision-making, productivity, and sales (Petter et al., 2008). The preceding is transferable to Social Media (Cheung and Lee, 2008). Thus, this research concludes that the adoption of Social Media in the Business Development process might lead to a performance increase due to usability and user satisfaction.

2.2.2.3 Discussion

The review of articles on the underlying information technology in Table 2.8 suggests the necessary concepts which apply to determine the type and number of selected Social Media, to consider the usage criteria against the background of the Technology Acceptance Model (TAM) and their impacts on the ultimate performance determined by information quality and system quality. In this context, the question arises which Information Systems success measure might apply to Social Media Usage.

These articles represent the general view of scholars who see *perceived usefulness* as a level of performance and *perceived ease of use* as a level of effortlessness which impacts the *acceptance* of specific Social Media platforms. Regarding social networks, the *critical mass* based on the number of most relevant social network connections plays a role (Rauniar et al., 2014).

In the context of this thesis *perceived playfulness* might play a role regarding the choice of Social Media though some scholars argue its lack of performance orientation because of its focus on enjoyment.

Overall, this section sheds light on which measures might be relevant to better understand Social Media Usage behaviour, mainly as to possible measures for Social Media Usage (Davis, 1989; Rauniar et al., 2014) and the influence on performance aspects (Petter et al., 2008).

Table 2.8 Journal Articles 1–3 to Information Technology

Source	Davis (1989) Perceived usefulness, perceived ease of use . . . *MIS Quarterly*	Petter et al. (2008) Measuring information system success . . . *Journal of Service Research*	Rauniar et al. (2014) Technology acceptance model and social media . . . *Journal of Enterprise Information Management*
Objective	• Develop and validate scales for perceived usefulness and perceived ease of use being determinants of user acceptance	• Review papers from 1992 to 2007 about the aspects of Information System success	• Examine Social Media Usage Behaviour based on the Technology Acceptance Model
Definition IS Success/ Effectiveness	• Perceived Usefulness: Level of performance • Perceived Ease of Use: Level of effortlessness through System Usage	• System Quality, Information quality, Use, User satisfaction, (Individual impact and Organisational impact) are replaced by Net Benefits; Service Quality	• Perceived Usefulness: Level of goal achievement & • Perceived Ease of Use: Level of effortlessness through Social Media Usage • Critical mass: Number of most important contacts
Research Lenses/ Context	• Self Efficacy Theory (Perceived Ease of Use) • Cost-Benefit (Behavioural Decision)	• IS Theory, Utilitarian: improve performance, Hedonistic: earmarked for enjoyment • Marketing Theory	• Theory of Technology Acceptance • Theory of Reasoned Action/Planned Behaviour
Research Nature	• Conceptual/Empirical	• Conceptual/Exploratory	• Theoretical/Empirical
Dimensions/Variables/ Success Measures	• Perceived Usefulness • Perceived Ease of Use	• System Quality, Information Quality, Service Quality • System Use, Net Benefits	• Critical Mass, Perceived Ease of Use, Perceived Playfulness, Perceived Usefulness, Trustworthiness, Intention to Use and Actual Use
Sample Size (Company Size, Industry, Region)	• Studies at two universities in Boston, US • Pre-test 15, Study 1: 112, Study 2: 40 Students	• 180 papers	• Originally 900 full-time students from two US Business Schools
Research Methodology Qualitative/Quantitative	• Literature Review • Exploratory Factor and Regression Analyses	• Literature Review	• Literature Review, Interviews, Online Survey • Principal Component, Structured Equation Model
Leitmotif	• Develop measures for key determinants of user acceptance • Develop measures to predict system usage	• Examine the DeLone and McLean IS-Model on individual and organisational level • Pairwise comparisons	• Based on TAM study identify key factors for Social Media usage behaviour • Measure Social Media Usage/Behaviour
Notable Results/ Conclusions	• Perceived Usefulness is primary and • Perceived Ease of Use is secondary determinant for system acceptance/adoption	• IS-Model applies on both levels • (Non)significant positive (negative) results • Two relations are supported: System Quality & Net Benefits, Net Benefits & System Use	• Develop scales for User Acceptance, Actual Usage • Revised TAM supports Social Media hypotheses • Perceived Usefulness and Trust determine Usage Intention and Actual Usage
Future Research Questions	• Include objective usage measures	• Study IS dimensions of Social Networking	• Gain a better understanding of Social Media usage

Source: Author (2012–2017) this table briefly summarises the content of the journal articles cited.

2.3 B2B-Business Development in IT/Software Firms as Research Focus

B2B-Business Development has become more than a buzzword among executives and is widespread in today's business world. Only a few scholars have explored this area to date for which they still have not found a cohesive definition (Davis and Sun, 2006; Kind and Knyphausen-Aufseß, 2007; Giglierano et al., 2011; Eidhoff and Poelzl, 2014). To date, there is general agreement that B2B-Business Development surfaced within the IT industry, is geared towards seizing new growth and revenue opportunities and incorporates marketing activities (Shane and Venkataraman, 2000; Giglierano et al., 2011; Sørensen, 2012b). However, it often remains vague across industries what exactly is meant by Business Development processes. Also, the concept is still novel as far as the B2B-software market is concerned.

B2B-Business Development is researched either independently from the angles of B2B-Marketing or Sales Performance (Brennan and Croft, 2013; Itani et al., 2017) and Entrepreneurship or Innovation (Venkataraman, 1997; Davis and Sun, 2006) or studied with Entrepreneurial Marketing as a combination of both areas (Morris et al., 2002; Stokes, 2000; Giglierano et al., 2011).

Correspondingly, the study analyses potential B2B-Business Development concepts and identifies potential process phases/stages through an interdisciplinary research lens. Based on these considerations, the scope of the study is narrowed by synthesising B2B-Business Development activities and processes according to the most recent academic findings and meeting particular requirements in the software environment as outlined in Table 2.1,20.

2.3.1 Relationship Marketing and Sales Literature

This review incorporates Relationship Marketing and Sales because of their importance for Business Performance (Le Meunier-FitzHugh and Piercy, 2011) and in light of the specific liaison role that B2B-Business Development plays in practice to collaborate with both marketing and sales functions (Apriso, 2011). The analysis of both kinds of literature creates a broader understanding of the relevant constructs to examine the coordination function and processes of B2B-Business Development in a software/services environment.

This section begins with the analysis of both B2B-Business Development and Relationship Marketing and illustrates how the related constructs are drawn from the literature. The purpose is not to debate and discuss the Marketing literature in detail but rather to perform the analysis in such a way that relevant constructs originating from Relationship Marketing are selected which become simultaneously applicable to B2B-Business Development. For example, the theoretical map by Möller (see page 50) which provides insight into viable technologies.

Davis and Sun (2006,149) note that "business development activities (…) emphasise opportunity recognition, development and care of relationships with partners, and assistance in "solution selling" – marketing complete solutions". Kind and Knyphausen-Aufseß (2007,183;185) stress that "the most important task of BD is to develop business relationships (…) maintaining and enhancing these".

Unlike these scholars who equate the term B2B-Business Development with both existing as well as new yet to be developed business, Giglierano et al. (2011); Brennan (2015) attempted to draw a clear line between developing existing and new business. From their point of view, developing existing business is considered a key account or strategic sales activity. In contrast, developing new business such as generating opportunities with potential buyers in the early commercialisation of disruptive innovations is referred to as relationship marketing activity which might be assigned to marketing or salespeople.

Accordingly, from a practitioner point of view, the activities of B2B-Business Developers resemble partly (relationship) marketing activities which are different from those of salespeople in a number of respects (Giglierano et al., 2011).

Firstly, B2B-Business Development professionals execute similar activities like Relationship Management such as identifying and engaging decision-makers of potential buyers (Schultz et al., 2013). Sometimes this activity is assigned to salespeople (Brennan, 2015). Sørensen (2012b) recognised that B2B-Business Development, Marketing, and Sales engage in similar activities to find and pursue profitable opportunities. These cross-functional responsibilities are overlapping, similar to the primary job demands global software practitioners place on B2B-Business Development professionals. For example, the software vendor Apriso defined the liaison role of B2B-Business Developers to cooperate with Marketing in following up with targeted companies and with Sales in transitioning high-quality opportunities establishing a critical business case. Typical activities concentrate on generating new business which involves mostly preliminary activities like securing introductory meetings for Sales.

Though B2B-Business Development job descriptions vary widely in the B2B-software environment regarding the level of collaboration between B2B-Business Development with the interfacing Marketing and Sales functions, a specific structure of upstream activities is apparent. The roles and responsibilities of B2B-Business Development executives can reach from rather operative activities like cold calling to strategic marketing- and/or sales-related activities to help close the business (Dassault Systems, 2017; Oracle, 2017; SAP, 2017).

Secondly, the responsibility to manage on-going and arising business is apparently assigned to sales account executives (Giglierano et al., 2011). This means that upon the acceptance of opportunities, the role of B2B-Business Development is deemed to be complete, and Sales becomes not only solely responsible for the downstream activities like exploiting these opportunities and closing the final business deal but also acquires the customer ownership besides the rights and benefits in respect of future transactions (Apriso, 2013).

The acceptance of opportunities represents the ideal situation, i.e. Sales recognises the high chance of success to exploit opportunities provided by B2B-Business Development immediately.

The reality, however, looks entirely different: Sales often defers or rejects opportunities which do not promise a swift completion of deals. Only exceptional cases like the impending loss of a major customer might induce Sales to blur this boundary temporarily and request ad hoc preventive and corrective actions from Business Development. This happens without any obligation from Sales to transfer back current opportunities to Business Development but puts this function at risk if relationships cannot be salvaged for example when a customer finally chooses a competitor solution after a promising pilot project.

Thirdly, though Business Development is in charge of generating profitable opportunities for Sales, it stays discretely in the background once Sales overtakes the opportunities and receives the most recognition for closing the deal. This might provoke 'cultural clashes' between Salespeople and Business Developers in terms of arrogance and hubris.

Therefore, this research is inclined to follow the distinction between both functions. This view is supported by scholars like Davis and Sun (2006); Giglierano et al. (2011) and Sørensen (2012b,15) who notes that B2B-Business Development activities comprise "the identification, analysis, and pursuit of profitable growth opportunities". Since B2B-Business Development includes mostly preparatory activities around the building of sustainable connections, the Relationship Marketing area has here been given priority over Sales. Hence, in this context, B2B-Business Development aims first and foremost at initiating and establishing relationships to stimulate new business.

2.3.1.1 Prevailing Marketing Concepts

Comprehensive B2B-software solutions and services entail marketing activities which are geared to minimise exchange uncertainties, ensure mutual recognition of standards and create durable, profit or value maximising relationships. Especially, in the B2B-software industry, the purpose of B2B-Business Development consists in obtaining long-term commitments with recurrent revenue, instead of one-off business transactions (Palmer, 1994; Andersen, 2001; Das, 2009). For that reason, the marketing paradigms prevalent in the seminal literature will be discussed and evaluated bearing in mind the specific expectations and requirements of B2B-Business Development in the global software industry.

Transactional Marketing – This paradigm applied to the homogenous mass markets in the post WW2 era providing an apparently endless number of new customers involved in short-term, micro-economic exchanges. The emphasis of transactional marketing was on sales processes rather than on building lasting relationships (Gummesson et al., 1997). It laid the foundation for McCarthy's (1960) 4Ps marketing-mix model – Product, Price, Place, Promotion (Dwyer et al., 1987; Gummesson, 1987; Palmer, 1994) enabling seller-directed, one-sided, persuasive communication (Andersen, 2001; Winer, 2009).

The immediate value of Traditional Marketing for this work seems uncertain. Due to its origination in business-to-consumer markets in North America, it is questionable whether it would be of practical applicability to business-to-business exchanges. It appears counterintuitive to equate this perspective with such business-to-business markets as in the case of large-sized corporate software packages involving the exchange of further reaching services rather than just goods.

Firstly, software buying processes involve multiple decision layers instead of a fast turnaround as in the case of micro-economic supply-demand transactions.

Secondly, ERP/MES/Cloud software is highly complex, non-standardised and individualised to a particular business model and industry. This perception is no longer considered appropriate in the face of market developments calling for a radical change in the traditional concept of marketing and sales processes (Kotler, 1991; Grönroos, 1994; Denison and McDonald, 1995; Andersen, 2001).

Finally, the focus of the ERP/MES/Cloud technology industry is on providing software and service solutions (Shankar et al., 2009; Macdonald et al., 2016). This necessitates the shifting to Service-/Customer-Dominant Logic to ensure that vendors and buyers collaborate as 'co-creators of values' which involves continuously aligning service-related processes (Vargo and Lusch, 2008; 2011; Heinonen et al., 2013).

Relationship Marketing – The paradigm shift from Transactional to Relationship Marketing in the late 70ties must be understood from an array of further economic, technological and societal developments. These can be abridged as market globalisation, customer empowerment, innovative processes and technologies in conjunction with sophisticated information-sharing processes, non-standardised product solutions and unique social relationships (Kotler, 1991; Grönroos, 1994; Denison and McDonald, 1995; Andersen, 2001; Palmer et al., 2005). These developments indicate that given complex software solutions, the relationship concept appears to be the more proper and reasonable than the transactional perception. This is mainly because Relationship Marketing is about developing long-term relationships in highly differentiated markets which involve collaborative and social exchanges. Besides this, the value-adding exchanges become vital to ensure customer retention (Ford, 1990; Hallen et al., 1991; Day, 2000; Andersen, 2001; Brennan et al., 2003). In contrast to Traditional Marketing, it is essential to establish trustworthy relationships before the actual sale transaction can take place.

It is therefore critical to generate a researchable interest in this particular marketing concept. This can be achieved by analysing the relationship marketing-oriented literature and identifying the constructs relevant to this study. The analysis of the relevant literature is accomplished by following two major directions. Initially, different research streams referred to as 'schools of thought' approach are discussed. Finally, the core concepts such as business-to-business relationships will be examined from various angles.

2.3.1.2 Major Schools of Thought

Particularly noteworthy among the schools of thought are the subsequent research groups which evolved in the 1970s and paved the way for the synthesis of Relationship Marketing (Palmer et al., 2005).

The *Nordic School of Services group* refers to the Services Marketing field and came into existence resulting from the paradigm shift from a short-term oriented, primarily micro-economic oriented, transactional marketing mix to a long-term oriented, interactive relationship marketing strategy anticipating market changes due to technological developments towards fragmentation and individualisation (Grönroos and Gummesson, 1985; Grönroos, 1994; Palmer, 2007). This school of thought appears appealing at first glance since it encourages suppliers and buyers alike to interact in relationships eventually leading to reciprocal value creation and increased loyalty and long-term life cycles. (Gustafsson et al., 2010; Grönroos, 2011; Grönroos and Ravald, 2011).

However, Gummerus (2015) points out that Relationship Marketing does not necessarily lead to the creation or strengthening of competitive advantages and/or mutual value creation especially when long-term collaboration and relationship maintenance are not pursued.

The *Industrial or International Marketing and Purchasing (IMP) group* labelled *Nordic School of Marketing* classifies types of business-to-business relationships and critical factors that help to develop these relationships. Especially noteworthy is that the attention on interactions to foster mutual relationships and dialogue to build commitment and value leads to repeat business instead of one-off transactions (Gummesson, 1987; Wensley, 1995; Palmer et al., 2005). Supplier-buyer relationships of this kind are portrayed as cooperative and on-going which allows to mitigate the risk of uncertainty and to generate substantial transactions on a recurrent basis (Turnbull et al., 1996; Christopher et al., 2013).

Both schools of thought are widely recognised by scholars in the relationship marketing area and suggest that profitable relationships involve, besides communication/dialogue, value creation on either side. This means that the supplier's extensive service offering provides the resources to support the buyer's operational efficiency and business effectiveness (Grönroos, 2004; Grönroos, 2011). In this respect, Vargo and Lusch (2011) see the use of technology as *driver for performance*. This also includes relationship-oriented social media which are applications to communicate in a real-time, two-way, interactive, and conversation-like fashion (Ellonen and Kosonen, 2010).

In addition to the preceding, the *Anglo-Australian* school of thought appears of particular interest since it extends the Nordic School viewing traditional marketing based on quality and service. The *Anglo-Australian* approach centres on long-term relationships.

It assumes building and nurturing relationships with six different stakeholder groups in varying degrees by creating excellent customer satisfaction and value proposition (Payne and Holt, 2001; Payne et al., 2005; Christopher et al., 2013).

There are two other approaches worth mentioning, the *Anglo-American* approach centring on quality, customer services, and marketing besides the *North American* approach underscoring the reciprocal nature of vendor-buyer relationships (Payne, 1995; Grönroos, 1997; Palmer et al., 2005).

As expected, the literature review reveals further research streams beyond the before conferred ones or even combinations available for analysis without however reaching an overarching relationship marketing concept.

Recently, the *Service-Dominant Logic* approach has become increasingly crucial in B2B-interactions between buyers and vendors (Heinonen et al., 2013). Compared to the *IMP group* and *Nordic School of Services group* this approach emphasises more on 'value co-creation' rather than on relationships and interactions (Chandler and Vargo, 2011).

In the context of the dynamic changing B2B-software markets, the exchange of services comprises transaction relevant knowledge and information (Vargo and Lusch, 2011). The *Customer-Dominant Logic approach* goes even further by including besides value co-creation, value-in-use and buyer experience. Value-in-use occurs above and beyond the purchase transaction while value creation is not seen as limited to vendor-buyer interactions but unfolds in ongoing experiences. For example, the vendor might realise business opportunities due to buyer specifications (Stauss et al., 2010; Heinonen et al., 2011). The value proposition for software solutions and services depends on the collaboration between vendor and buyer (Macdonald et al., 2016).

The review will be limited to the earlier discussed 'schools of thought' due to their particular relevance for B2B-Business Development while Service-/Customer-Dominant Logic can be necessary for Business Performance (Section 2.4).

In Table 2.9 the essential components of the major 'schools of thought' of Relationship Marketing are compared with each other. Moreover, certain linkages between the 'schools of thought' and Business Development are highlighted, for example, the unit of analysis, nature of the relationship and outcome.

In conclusion, it can be stated that though the definitions vary somewhat, their focal points revolve around superior buyer-supplier relationships which are of a long-term nature with the objective to create mutual benefits. For both, the 'school of thoughts' and B2B-Business Development applies that from a corporate perspective the building and nurturing of business relationships should be at the core of strategic considerations and operative activities.

Table 2.9 The major Schools of Thoughts in comparison to B2B-Business Development

Criteria of Distinction	IMP Group	Nordic School	Anglo-Australian Approach	B2B-Business Development
Main Theme	• Develop inter-organisational relationships	• Provide Service	• Integrate Service, Quality & Customer relationship econ.	• Generate leads/ new opportunities
Context Market Arena	• B2B Marketing, • Industrial Goods • Volatile external environment	• B2C, Consumer Markets • Service Marketing • 30 markets with four categories	• B2C; Six Stakeholder Scenario: Customer, Referral, Influencer, Employee, Supplier, Internal Markets	• B2B, Industrial Goods • Volatile external environment
Nature of Relationship	• Short-/Long-term • Cooperative and Risk-minimising • Social/Economic	• Long-term promise • Sustainable • Loyal	• Long-term • Superior Customer Value oriented	• Short-/Long-term • Cooperative and Risk-minimising
Unit of Analysis	• Interaction/ • Buyer-Vendor Relationships or networks	• Interaction/ Buyer-Seller Relationships	• Buyer-Seller Relationships	• Buyer-Vendor/Third-party Relationships
Challenge	• Ensure interactions being reflected in continuous streams of transactions • Balance short-term individual and long-term stakeholder relationships	• Overcome perceived weaknesses of Transactional Marketing • Manage relationships functionally and cross-functionally	• Ensure superior customer value and customer retention • Manage relationships cross-functionally & process oriented (interaction, communication/ sales, value)	• Ensure steady pipeline being reflected in steady, recurring revenue streams • Optimise Business Development process phases by digital media
Core Activities	• Mutual impact • Adaptation • Commitment/Trust	• Interaction • Dialogue • Value	• Customer retention • Customer attraction	• See: Research Model (Chapter 3,88)
Information Exchange	• Varies by Relationship phase	• Dialogue • Two-way Communication	• Hierarchical, Inter-functional & Network Knowledge • Focuses on perceived value and retention	• Varies with BD process phase • Influenced by Media approach
Outcome/ Measurement	• Customer Relationship • Profitability	• Quality • Value co-creation • Satisfaction	• Superior Customer Satisfaction • Value Creation	• Number and Quality of Leads/Opps. • Social Capital
Strengths	• Competitive advantage through stronger relationships due to commitment and reciprocal adaptation	• Improve Relationship Quality, Loyalty, and Lifecycle • Emphasize Customer perceived value	• Emphasises the integration of quality management, service marketing & customer relations	• Develop profitable new Business opportunities • Co-create Value • BD considers intra-firm perspective (Liaison)
Weaknesses	• Primary focus on relationships in the B2B-context • IMP neglects intra-firm perspective	• Service is the only criterion for differentiation • Exclusive focus on B2C neglects B2B	• Primary focus on B2C	• Lack of recognition by Salesforce • Loss of control once opportunities are being transferred

Source: Grönroos (1994); Payne and Holt (2001); Palmer et al. (2005); Davis and Sun (2006); Christopher et al. (2013); Gummerus (2015).

It is apparent that B2B-Business Development and Relationship Marketing processes share similar goals and consequently are contingent on one another. This suggests that B2B-Business Development processes aim at generating profitable opportunities much like Relationship Marketing processes support the value creation, benefiting all parties (Davis and Sun, 2006; Grönroos and Ravald, 2011).

Though the phases of B2B-Business Development (Figure 1.3,11) and Relationship Marketing (Figure 2.7) processes may vary, there are certain similarities. For example, particular emphasis in both processes is placed on information retrieval. The reason is apparent: building meaningful relationships increases the chance to be shortlisted and winning the deal.

Figure 2.7 Relationship Building Process
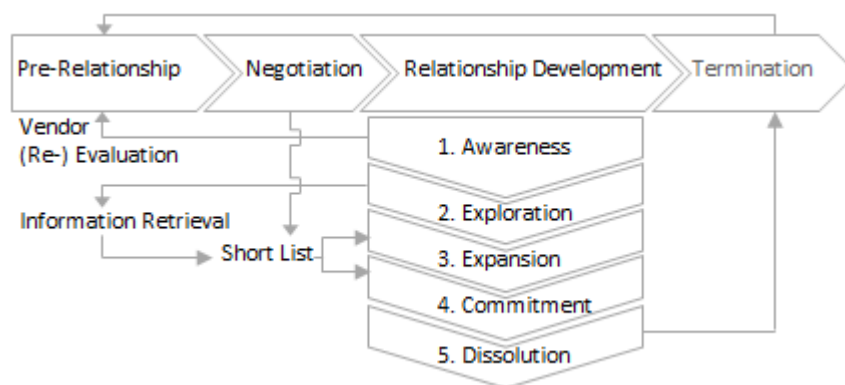
Source: Adapted from Dwyer et al (1987); Andersen (2001) et aliter

However, it should be clarified, that relationship building can only be a means for the purpose to develop business more efficiently and effectively. This raises questions such as: what type of relationships are particularly important in the B2B-software context, what constitutes these relationships and what value can be created within the B2B-Business Development process?

2.3.1.3 The Importance of B2B-Relationships

That B2B-relationships play a critical role is implied by the fact that the 'schools of thoughts' include these as a unit of analysis in their qualitative methods (Palmer et al., 2005). This view is consistent with B2B-Business Development processes in ERP/MES/Cloud where company-wide implemented solutions and services often focus on long-standing relationships.

The identified areas of research relating to B2B-buyer-supplier relationships are recently classified as shown in Figure 2.8. The term of 'relational complexity' portrays business relationships which define not only the actors (buyers and vendors) and embody the prime asset (software solutions) but also trigger specific activities and determine processes expressed in the research model (Ford and Mouzas, 2013; Möller, 2013).

Figure 2.8 Theoretical Map
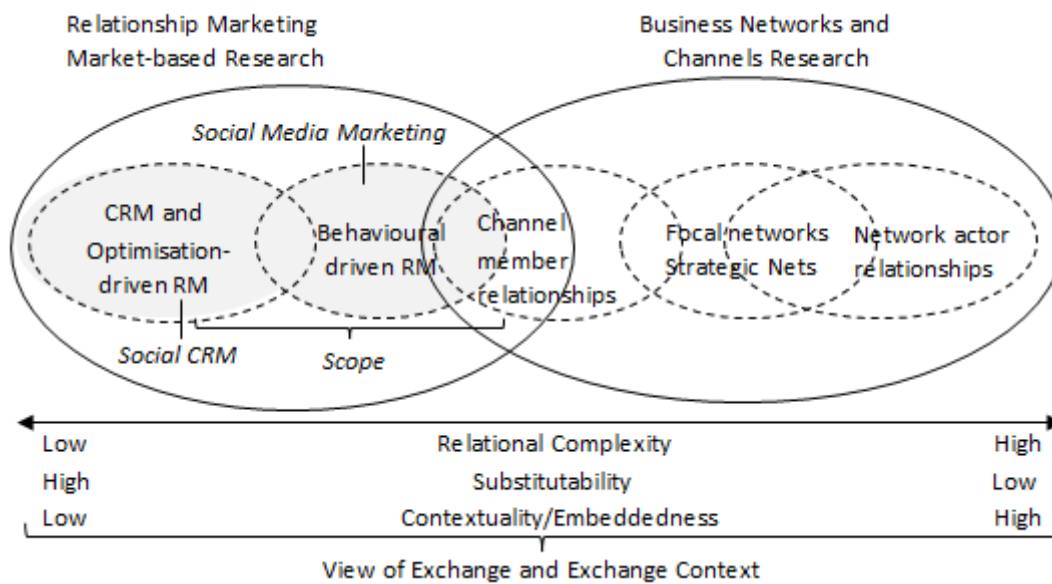
Source: Adapted from Möller (2013); Zaki et al (2013); Moretti and Tuan (2014); Rodriguez et al (2014)

The theoretical map appears particularly suitable in connection with proposed B2B-software projects since it reflects the relational complexity referring to the exchange/value co-creation activities (Möller, 2006). Dependent on the scope of software distribution this complexity ranges from limited and standardised solutions for single-site plants or large-scale and specialised solutions for numerous plants/sites in multiple regions. The ellipses in solid lines represent the groups of research traditions, whereby the overlap indicates that the paradigms share certain assumptions and are theoretically permeable. The ellipses in dashed lines represent borders of theories with overlaps indicating congruence. Among the most recent relationship marketing concepts is Content Marketing/Social Media Marketing with the main focus on storytelling (Järvinen and Taiminen, 2016).

Moretti and Tuan (2014) view Social Media as 'revolutionary or evolutionary for Relationship Marketing' in terms of enhancing the strategy of value co-creation. Thereby, Social Media Marketing optimises pre- and post-sales processes to develop and strengthen relationships with existing and potential customers. Similarly, the integration of Social Media with CRM technology is seen as instrumental to improve operating processes and performance, i.e. relationships and overall productivity (Rodriguez and Peterson, 2012; Rodriguez et al., 2014).

Business relationships in this context are based on social characteristics like *commitment* and *trust* (Macneil, 1980) also known as relationship connectors (Cannon and Perreault Jr., 1999), or *relational capital* (Kale et al., 2000). The contextuality/embeddedness of buyer-relations is determined by these characteristics which appear indispensable to mitigate the high risks involved in the distribution and implementation of software on a regional or global scale.

Relational capital brings about compatible quality/performance relationships (Dyer and Singh 1998 cited by Vosgerau et al., 2008,205) eventually facilitating collaboration and satisfaction critical for subsequent projects (Hunt and Morgan, 1994; Vosgerau et al., 2008; Gil-Saura et al., 2009).

For this reason, one principal objective of B2B-Business Development is to strive for these kinds of relationships. Furthermore, these relationships distinguish themselves by "social bonding and communication" (Pinnington and Scanlon, 2009,34) and involve innovative, hard to imitate activities, thereby creating a competitive edge (Money et al., 2010,763). Communication and trust facilitate *collaborative consumption*, especially the sharing of proprietary information (Roy and Sivakumar, 2010; Belk, 2014).

The distribution of large-scale software projects is dedicated to generating follow-up business through offering services in addition to the product itself. Behavioural driven service marketing becomes critical to develop and maintain lasting business relationships which centre around multi-layered buying processes (Grönroos, 1994; Hennig-Thurau et al., 2002).

Bitner (1995) advocates that specific service marketing activities warrant successful B2B-relationships, i.e. making realistic promises, providing capabilities in the form of suitable service systems and keeping these promises during service delivery. These activities are representative for several types of relationships which are classified according to the marketing triangle by Kotler (1994); Kotler and Armstrong (1997) into vendor – employees (internal), buyer-employees (interactive) and external (buyer-vendor) marketing activities.

2.3.1.4 The Role of Sales Performance/Technology in B2B-Relationships

Noteworthy for B2B-Business Development is one spectrum of the theoretical map representing *Customer Relationship Management (CRM)*. Primarily, the capability of CRM systems to capture and use data of existing and new buyers, to enhance relationships and co-create value (Rust et al., 2004; Möller, 2013; Rodriguez et al., 2014) applies to both B2B-Business Development and Sales. The definition of CRM indicates that it helps to simplify and trace the relationship-building efforts which affect the B2B-Business Development and Sales process cycles. CRM is the "systematic process to manage customer relationship initiation, maintenance, and termination across all customer contact points to maximise the value of the relationship portfolio" (Reinartz et al., 2004,294-295).

Contemporary research has concentrated on CRM and Sales Force Automation tools which arose with the technological progress in the mid-80ies (Theron and Terblanche, 2010; Möller, 2013) and "utilise[s] information technologies to implement relationship marketing [and sales] strategies" (Payne and Frow, 2005,527). Ahearne et al. (2008) noticed that information technology usage enhanced customer service and sales processes which lead to a positive impact on sales performance.

The disadvantage of traditional CRM systems consisted mainly of a lack of a collaborative interaction with existing and future customers (Peters et al., 2010). This inconvenience has been salvaged by introducing improved Sales-based technologies and/or Social CRM systems which offer possible communication and information benefits (Peters et al., 2010; Moretti and Tuan, 2014). Lately, Panagopoulos (2010); Rodriguez et al. (2014) reported several benefits resulting from the integration of social media tools into CRM/sales processes. Besides the expected positive impact on business processes and performance, Social CRM promises to stimulate business relationships. Meaningful conversations between buyer and seller on Social Media enhance the co-creation of product and service solutions in line with each other's expectations and values.

Conversely, the use of Social CRM should not conceal the fact that a potential drawback lies in unfair discrimination against certain buyers involving the dissemination of damaging information (Nguyen and Simkin, 2013,17; Vidal, 2014). This suggests a responsible media usage especially regarding the communication of commercially sensitive information.

Despite this reservation, the author follows the view of scholars recognising that new social media technologies have become an inherent part of the current B2B-research agenda since they change the way executives communicate, access and share information (Avlonitis and Panagopoulos, 2010). It should be noted that though Social Media technology eases and accelerates a collaborative relationship building process (Jussila et al., 2014), deep-reaching, lasting relationships evolve only gradually over time (Quinton and Wilson, 2016).

Another point for criticism is that the theoretical map (Figure 2.8,50) has not yet been updated to business relationships in the digital era. Explicitly, Social Media Marketing should be integrated into Relationship Marketing as an "evolutionary factor" with buyers contributing to the process of value co-production/co-creation (Moretti and Tuan, 2014,250). Moreover, Social Media Marketing appears critical to adjust social networks for business purposes (Pentina et al., 2014). Finally, Social Capital can be expanded to Relational Capital in B2B-relationships (Kale et al., 2000; Kohtamäki et al., 2013). The author of this thesis considers Relational Capital being the relevant part of Social Capital in terms of its proximity to performance, i.e. generating opportunities and/or closing new business.

2.3.1.5 Main Constituents of B2B-Relationships

As stated before, Business Development is striving for relationships that meet specific criteria required to win large-scale software projects. *Relationship Commitment* and *Trust* are regularly mentioned as major concepts influencing the desired loyalty and profitability (Dwyer et al., 1987; Moorman et al., 1992; Morgan and Hunt, 1994). De Ruyter et al. (2001,271) justifies paying attention to these concepts with the exposure of B2B-relationships to "complexity and inherent perceived risks (…) in high-technology markets".

The definitions of *Relationship Commitment* and its components in the literature are mostly consistent, even though they vary in their complexity.

Moorman et al. (1992,316) define Relationship Commitment as the "enduring desire to maintain a valued relationship" which Ryssel et al. (2004,199) break down into the *four* dimensions: "loyalty, willingness to make short-term sacrifices, long-term orientation, and willingness to invest in these relationships" on the buyer side.

Buyer loyalty, in turn, translates into repeat business (behaviour) and referrals (attitude), thus creating a supplier advantage (Rauyruen and Miller, 2007; Russell-Bennett et al., 2007; Simmons et al., 2010; Ruiz-Molina and Gil-Saura, 2012). The buyer's *affective* commitment ensures the continuation of relationships still in volatile technology markets (Moorman et al., 1992; Wilson, 1995; De Ruyter et al., 2001).

A buyer's commitment is enhanced through supplier investments in proprietary IT systems, including by definition, Social Media (Martin et al., 1998 cited by Ryssel et al., 2004,198; (Brennan and Croft, 2012).

By contrast, a buyer's contrary *calculative* commitment originated from the substantial costs to replace a current vendor because of the unique investment (Geyskens et al., 1996; De Ruyter et al., 2001; Gounaris, 2005; Meek et al., 2011). Finally, investing in relationships is essential for vendors to gain a sustainable competitive advantage as the studies by Liang et al. (2009); Theron and Terblanche (2010) in the financial services industry reported.

Similarly, the fundamental nature of the *trust* concept indicates it being elementary for the potential development and maintenance of lasting relationships (Dwyer et al., 1987; Moorman et al., 1992; Ganesan, 1994). Scholars list among the reasons the impact on open communication and information exchange in high-tech purchases (Blomqvist, 1997). The closeness of both concepts is evidenced by the early definition of *interpersonal trust* as the "reliance upon the communication of another person in order to achieve a desired but uncertain objective in a risky situation" (Giffin, 1967,104).

For rendering Business Development processes more efficiently from the beginning, it takes the reliance and disclosure of sensitive information (Lewicki et al., 2006,1004; McCready, 2013). However, the definition of *inter-organisational trust* as "belief that one's world is reliable and that a party will fulfil its obligation, acting predictably and fairly" (Mohr and Spekman, 1994,138), seems quite idealistic and questionable in times of fiercer competition in global manufacturing markets (Bo et al., 2004). A more realistic definition in today's scenario is the streamlined and similar one by Coleman James (1990); Moorman et al. (1992). Besides the buyer's beliefs about the supplier's trustworthiness, genuine trust includes a conforming reliance behaviour, in situations of vulnerability and uncertainty. Reliance behaviour exceeds simple belief which brings about limited trust.

Relationships in the B2B-software environment require a superior degree of interdependency, trust, and commitment (Macneil, 1980; Bunduchi, 2008). However, trust cannot ensure in every case that vendors win the deal.

Neither trust in particular suppliers nor their salespersons influences the ultimate supplier-selection (Doney and Cannon, 1997; Seppänen et al., 2007). Trust can only produce *affective* commitment and mutual identification (De Ruyter et al., 2001; Gounaris, 2005).

Ultimately, both concepts generate a positive outcome that "promote[s] efficiency, productivity and effectiveness" (Morgan and Hunt, 1994,22; Kwon and Suh, 2004,4) with a lasting competitive edge (Silinpaa and Wheeler, 1998; MacMillan et al., 2005).

2.3.1.6 The Commitment-Trust Theory of Relationship Building

Corresponding with behavioural driven Relationship Marketing, Morgan and Hunt (1994) proposed a Key Mediating Variable Model (KMV), that identified the antecedents affecting the essential characteristics, *commitment*, and *trust* towards specific relational outcomes.

The grey-shaded areas in Figure 2.9 are earmarked for the conceptual modelling. They are touched upon only briefly below, but they will be discussed in greater depth with the specific hypotheses and research model in Chapter 3.

Antecedents: It is reasonable to conclude that in a global economy characterised by fierce competition and continuous technological advances, superior *relationship benefits* involve besides offering customised software solutions and services, "establishing, nurturing, developing, and maintain success relationships" with the right partners to create "competitive advantages leading to solid financial performance" (Hunt and Morgan, 1994,20; Liang et al., 2009,130).

Relationship benefits of Social Media Usage for Business Developers may consist of identifying the relevant prospective decision-makers better and faster than their competitors, customising and simplifying the software proposal process and increasing the chances to be shortlisted eventually resulting in new deals.

Relationship commitment will be positively impacted when relationship benefits become perceivable for prospective buyers. Therefore, it is critical to approach the relevant set of decision-makers and present software solutions that uniquely promise to solve a real business problem while leveraging the existing infrastructure and resources.

Figure 2.9 Key Mediating Variable Model
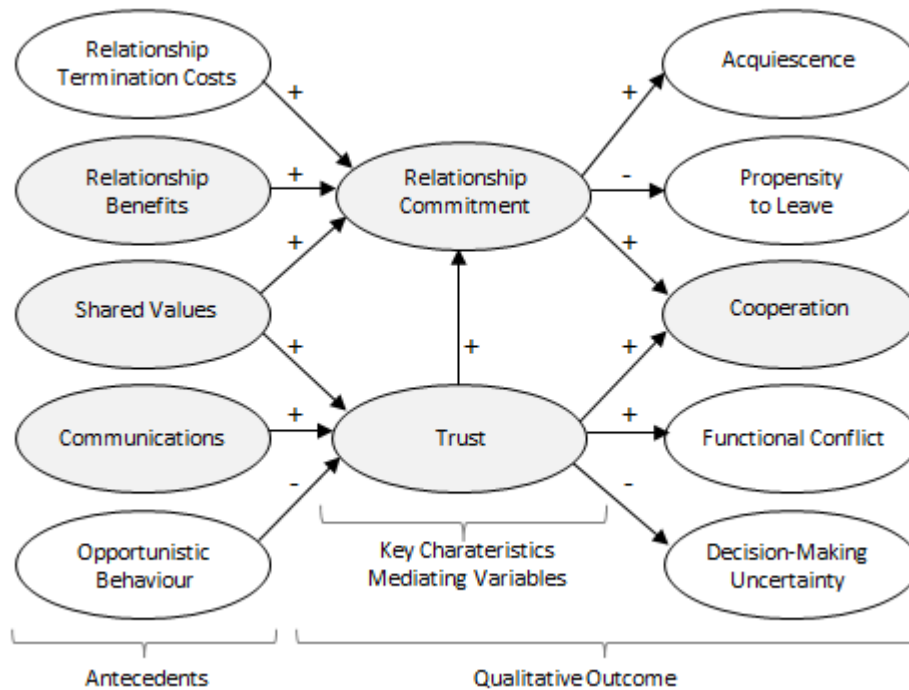
Source: Morgan and Hunt (1994,22)

Key Constructs: To impact *relationship commitment* and *trust* which were discussed before, buyers and vendors must share values about strategies and corresponding actions. These have to comply with prevailing rules and regulations. Values are based on the respective organisational culture (Morgan and Hunt, 1994). The purpose of *shared values* or *social norms* is to bypass uncertainty, conflict, and opportunism with governance.

Thereby, certain flexibility towards changing agreements and integrity regarding the complex buyer-vendor roles is expected (Gundlach et al., 1995). In practice, prospective buyers of global software regularly anticipate the vendor support beyond the pilot project. For example, by not involving the plant manager to justify the concept of an MES system or not training the shop floor employees after the pilot, the commitment level towards the project success is at stake and might result in a loss of a major customer relationship (Irani, 2002).

Communication can be defined as "formal as well as informal sharing of meaningful and timely information" (Anderson and Narus, 1990,44) which applies to the IT/Software industry equally (Malone et al., 1987; Bakos, 1998; Bunduchi, 2008).

The following are essential criteria for successful projects. Effective vendor-buyer communication patterns to develop the relationship by respecting mutual responsibilities (Meek et al., 2011; Van De Vijver et al., 2011). Ensuring vendor support from the buyer's decision-makers and expressing serious concern about the implementation beyond the pilot project phase (Irani, 2002).

For example, missing to convey precise information by salespeople may result in a severe breach of trust and the ultimate cancellation of the project by the buyer (Anderson and Weitz, 1992; Agnihotri et al., 2012).

Quality Outcomes: Consequently, *cooperation* will receive individual attention supported in the literature. Firstly, shared values of long-term B2B-relationships should be governed by cooperation, the *only* outcome variable which is *impacted by both*, relationship commitment and trust. For example, De Ruyter et al. (2001,274) observed that cooperation is a "frequent phenomenon in high-technology markets" as is the case with global tailored software. Secondly, cooperation requires that suppliers and buyers coordinate their activities to achieve the expected outcome which must be at least reciprocal over a considerable period of time (Lages et al., 2008). Ultimately, cooperation results in *satisfaction* (Michie and Sibley, 1985).

Wilson (1995) states that performance satisfaction results when business transactions match business performance expectations. However, Geyskens et al. (1999); Suki (2011) noticed that satisfaction comprises besides the economic (net profit), a psychological (ease of relationship) perspective. In the context of this research, satisfaction is essential to increase the possibility of repeat business (Nyaga and Whipple, 2011).

2.3.1.7 The Role of Communication/Information in B2B-Business Development

Throughout the different stages of B2B-Business Development, the infrastructure of communication and information should align between companies and across the functions. This is critical for collaboration and knowledge sharing (Gold et al., 2001; Hunt et al., 2006).

For example, to initiate productive relationships with key decision-makers, B2B-Business Developers have to gather relevant information to convince and bypass the gatekeepers and getting through to the key contacts. While traditionally, indispensable, proprietary information is only accessible via subscription databases (e.g. Hoovers), online information is less costly (Bakos, 1998) or even freely available on Google (Belk, 2014). Furthermore, social networking sites often provide state-of-the-art information. In practice, a well-maintained Social Media profile encourages trust- and reputation-based information sharing in terms of information receiving, using, and giving behaviours (McKnight et al., 2002; Agnihotri et al., 2009; Agnihotri et al., 2012).

Moreover, it allows more effective and timely communication because of common background information or recent updates. Consequently, trust between vendors and buyers (Anderson and Narus, 1990; Morgan and Hunt, 1994) and the quality of relationships are improved (Hennig-Thurau, 2000; Theron et al., 2013).

The following model stands out in the literature since it suggests communication practices that, besides the qualitative outcome, also take the swift technological changes and vigorous competition of the software environment into account (Mohr et al., 1996).

Figure 2.10 Integrative Model: Relationship Development – Communication
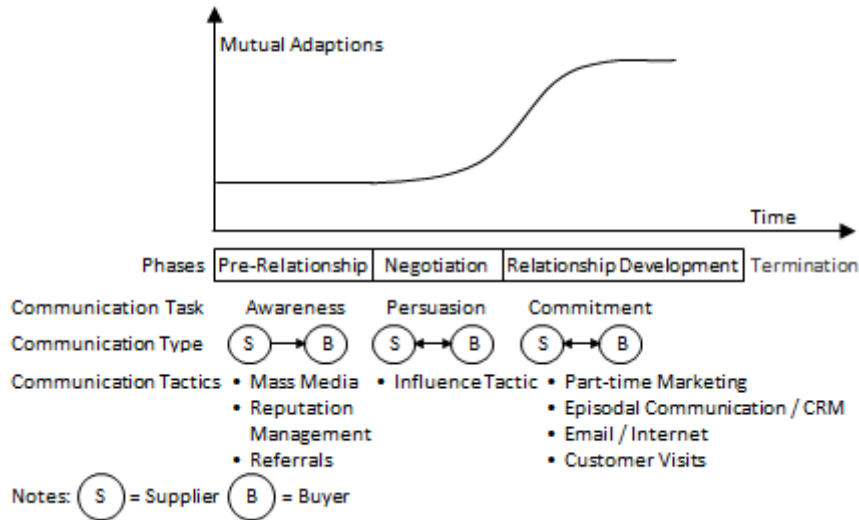
Source: Adapted from Andersen (2001)

For example, the model by Andersen (2001) integrates supplier initiated communication practices in evolving buyer-supplier relationships. It follows the relationship process activities by Morgan and Hunt (1994) and counters the uncertainty by cooperation, commitment, and shared values.

In particular, the Andersen model assumes, a pre-relationship phase (dissatisfied buyers reevaluating suppliers), a negotiation phase (buyers choosing a specific supplier), and a relationship development phase with increasing benefits. Correspondingly, the pre-relationship phase involves social distance with one-way communication (branding) to create a supplier identity combined with two-way communication (referrals, reputation management) to be shortlisted. The negotiation phase consists mostly of bi-directional communication (personal contacts/conversations) to reduce uncertainty. The relationship development phase establishes communication norms with increasing information exchange. The integrated model highlights changes in the sphere of communication during the relationship-building process in the upper section and delineates the relevant communication strategy in the lower section.

The main criticism centres on the fact that the model refers to B2C relationships in the retail banking industry in the Nordic region. However, the relational behaviours characterised by the content of communication and mode of interactions appear to speak in favour of the model since they apply to B2B-Business Development in IT and global software as well. This model anticipates the call to transform communication/information by new technologies (Moncrief and Marshall, 2005; Andzulis et al., 2012). Siamagka et al. (2015) noticed that the adoption of Social Media technologies depends on how innovative the organisation is and how useful the platforms are perceived.

Consistent with Anderson and Weitz (1989), *relational behaviours* are vital throughout the entire relationship though they tend to be stronger in the beginning. *Initiating behaviours* in the early phase include the supplier attempt to understand the buyer requirements which is perceived by buyers as genuine care. *Signalling behaviours* involve advance notices on upcoming changes in specifications while *disclosing behaviour* reveals sensitive information to the detriment of the supplier.

Of further interest in the literature is whether face-to-face or phone contacts should predominate in the initial relationship building phase where perceptions are formed. Leuthesser (1997) suggests frequent face-to-face interactions over phone conversations to ensure close contacts and information exchanges. In particular, company visits appear useful since suppliers can better determine buyer specifications, while successful sales presentations are more easily remembered by buyers (Andersen, 2001; Cicala et al., 2012).

Though in recent times, scholars assume an increasing transition from person-to-person towards computer-to-computer communications, software applications (e.g. Skype, Go-to-Meeting) or relationship-oriented Social Media (e.g. blogs, micro-blogs), traditional methods (face-to-face, fax, phone, mailings) are likely to remain for some time especially Face-to-Face being irreplaceable in B2B (Rosenbloom and Larsen, 2003; Moore et al., 2013; Moncrief et al., 2015).

The author suggests for B2B-Business Developers a mixed approach of innovative and proven methods of communication/information to cultivate digital and traditional personal relationships which are in line with Heinonen and Michelsson (2006). He shares the viewpoint of Ahearne and Rapp (2010); Agnihotri et al. (2012) that advanced technology in B2B-software sales tends to strengthen communication through optimised information sharing and that the integration of various communication methods might enhance the generation of new leads and opportunities (Pöyry et al., 2017).

2.3.1.8 Discussion

Relationship Marketing has been fundamentally discussed as one of the interfaces to B2B-Business Development. The comparison of the major schools of thought by Palmer et al. (2005) offers a starting point to identify the commonalities with B2B-Business Development in the literature. The review then pinpoints these areas in the theoretical map determining the scope of B2B-Business Relationships against the background of Sales Technology/ Performance. Identifying the constituents of Business Relationships leads to the Commitment-Trust Theory. Represented by the KMV model for successful relationships by Morgan and Hunt (1994), the model components are examined concerning their relevance for creating the conceptual model. At the interface of Relationship Marketing and B2B-Business Development relationships evolve "from competition (...) to mutual cooperation leading to value creation" (Sheth and Parvatiyar, 1995 cited by Moretti and Tuan, 2014,254). A close look is taken at activities governed by mutual norms and shared routines stimulating commitment and trust, thereby minimising the business risk.

The purpose of building long-term, mutually profitable and value maximising relationships with ongoing business is to replace short-term, individual and profit-maximising one-time transactions which are rather commercially unattractive in the ERP/MES/Cloud technology software sector (Grönroos, 1994; Palmer, 1994; Andersen, 2001; Lindgreen et al., 2006; Das, 2009). Correspondingly, De Ruyter et al. (2001); Porter et al. (2003); Paparoidamis and Guenzi (2009) and Suh and Houston (2010) recommend a behavioural sales approach.

The above perspective can be broadened by including at the same time the entrepreneurial orientation of Business Development activities discussed in Section 2.3.2,64. Thus, Business Developments resembles *Entrepreneurial Marketing* including the "proactive identification and exploitation of opportunities for acquiring and retaining profitable customers through innovative approaches to risk management, resource leveraging and value creation" (Morris et al., 2002,5).

The specific topics of Relationship Marketing/Sales shown below can be arranged such that they become a significant impulse for the research model design in Chapter 3.

Table 2.10 Classifications in Relationship Marketing/Sales (Extract)
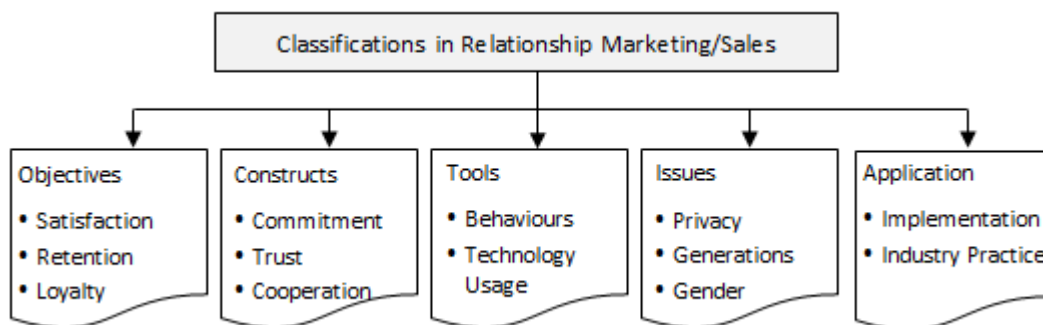
Source: Adapted from Lindgreen (2001); Cheung and Lee (2008); Das (2009)

Hardly any research addresses technology usage to enhance B2B-processes (Evans and Volery, 2001). This objection can be allayed by introducing, for example, Social Media (Avlonitis and Panagopoulos, 2010).

In the upcoming Table 2.11,62, the literature builds on the classifications to derive further implications for practitioners.

Leading scholars like Morgan and Hunt (1994); Andersen (2001); Vieira et al. (2014) agree in the fact that Relationship Marketing activities should be arranged in a way that relationships are developed with the aim of obtaining profits.

Others perceive that though the Commitment-Trust Theory appears to be still relevant, it should be extended further. For example, MacMillan et al. (2005) add to the communications precursor *listening* along with *informing* to reflect the underlying two-way communications/conversation process which is especially necessary for the vendor selection, collaboration and performance (Andersen, 2001; Michaelidou et al., 2011).

In short, the leitmotif is to examine how all this will affect the operational efficiency and business effectiveness (Grönroos, 2011). While commitment and trust are still considered as critical, recent studies suggest *Relationship Quality* as a "composite measure of relationship strength" instead (Palmatier et al., 2006,21; Barry et al., 2008; Khojastehpour and Johns, 2014). The reason for this is that the Relationship Quality concept encourages loyalty and longer relationship life cycles (Palmer et al., 2005). Moreover, it is considered essential to creating a competitive edge for companies (Palmer, 2007).

However, the primary challenge with the conceptualisation of *Relationship Quality* remains the lack of consensus as to which dimension to neglect or consider (Hennig-Thurau et al., 2002; Eggert et al., 2006; Palmatier, 2008).

Both qualitative and quantitative studies have indicated that specific constructs are indispensable when practitioners base their activities/behaviours on shared values and seek to cooperate closely. As a consequence, this research supports a simplified definition of Relationship Quality by Vieira et al. (2014) including commitment, trust, and satisfaction.

In order to better understand how the Business Development processes and activities will have to be designed and what outcomes have to be determined, Tables 2.11,62 – 2.12,63 contain peer-reviewed articles concentrating on aspects of relevance for Business Development practitioners relating to Relationship Marketing/Sales to examine how buyer-oriented technology might impact processes and performance (e.g. Rodriguez et al., 2014).

There are some well-researched routines of the interaction of salespeople which are partly transferable to Business Developers. For instance, Paparoidamis and Guenzi (2009) differentiate between the two relational behaviours, buyer orientation and adaptive selling.

In particular, the focus on long-term B2B-relationships and knowledge exchange of relationship selling practices within a sales team may positively affect the sales effectiveness. Avlonitis and Panagopoulos (2010) advocate the inclusion of technologies like Sales Force Automation while Rodriguez et al. (2014) admonish that CRM/Social Media technologies must go along with a buyer-orientation to bolster the effectiveness.

However, the bias of these scholars towards buyer orientation and new technologies might overlook the fact that it takes more than just these criteria to impact the business positively.

The author concludes that practitioners need to find a healthy balance between Social Media and Traditional Media usage which is consistent with the view of Vuori and Väisänen (2009); Baehr and Alex-Brown (2010). Primarily, the communications/negotiations between buyers and vendors gravitate in the final stages of the B2B-purchase agreement of Software solutions towards face-to-face meetings (De Ruyter et al., 2001). In this context, the author believes that it is mainly essential to identify critical behaviours and outcome measures from similar executive personnel and apply these to B2B-Business Developers where applicable.

Likewise, the review of these articles provides a starting point to subsequently analyse and synthesise suitable technologies deemed to optimise related business processes or activities which may ultimately affect business performance (Rodriguez et al., 2014).

By including Social Media Marketing to reshape processes with speed and agility (Moore et al., 2013) the author resonates strongly with the research call made by Avlonitis and Panagopoulos (2010) in terms of "sales process engineering".

But this does not appear to be enough since practitioners must determine which Social Media platform to select and in which ratio these are combined with Traditional Media.

The author suggests guidelines for best practices to encourage confidence in Social Media usage (Moretti and Tuan, 2014). These guiding principals include the identification of suitable types of Social Media, their most efficient allocation and combination with Traditional Media to particular activities in the respective B2B-Business Development process phase.

Table 2.11 Journal Articles 1–3 to Relationship Marketing/Sales

Source	Morgan and Hunt (1994) The Commitment-Trust Theory of Relationship . . . *Journal of Marketing*	Andersen (2001) Relationship Development and Marketing . . . *Journal of Business & Industrial Marketing*	Vieira et al. (2014) The Effects of Relationship Marketing . . . *Journal of Business-To-Business Marketing*
Objective	• Develop and test a model for Relationship Marketing	• Develop a combined model of buyer-seller interactions + communication procedures	• Integrate the literature on antecedents, mediators and their impact on B2B-business performance
Definition Relationship Marketing	• Includes "activities directed towards establishing, developing, and maintaining successful relational exchanges" (22)	• Is similar to Morgan and Hunt (1994) • Communication consists of meaningful message transfer and reception (168)	• Definition is based on "expectation that relational efforts to improve a business relationship will, in turn, improve performance." (86)
Research Lenses	• Marketing (Relationship) • Organisational Behaviour	• Marketing (Traditional, Relationship) • Rhetorical Philosophy	• Marketing (Industrial, Relationship) • B2B
Research Nature	• Conceptual/Exploratory/Empirical	• Theoretical/Exploratory	• Theoretical/Empirical

Dimensions/ Variables	• Mediators
	• Antecedents
	• Outcomes
	See KMV Model
		• Marketing Communication
		  • Tasks (purpose)
		  • Types (direction)
		  • Tactics (operation)
			• Key Mediators: Commitment, Trust + Satisfaction
			• Additional Mediators, e.g., Cooperation
			• Relational Antecedents: Communication, Relational Value (Buyer), Expertise (Vendor), Goals

Sample Size (Industry, Region)	• Nine interviews with • Tire retailers/manufacturer + dealer relations • US	• An unspecified number of interviews • 4th largest retail bank • Denmark	• 948 corporate client reps • Individual hotel chain in B2B • Portugal
Research Methodology Qualitative/Quantitative	• Literature Review • On-site interviews • Structural Equation Modelling	• Interviews (Marketing executives + Bankers) • Data Collection (Observations, Reports) • Case study	• Literature Review • Key informants, Self-administered questionnaire • Confirmatory Factor Analysis
Leitmotif	• Investigate the nature of Relationship Marketing • Investigate critical characteristics towards outcome: effectiveness + efficiency	• Systemise supplier initiated communication practices in relationship development • Traditional (persuasion) + Relational (info-sharing) communication	• Connect relational antecedents to relational mediators to investigate impact on business share • Performance is bolstered by a concurrent increase of trust, satisfaction + commitment (Rel. Quality)

Notable Results/ Conclusions	• Two Mediating Key Variables
	• Antecedents impact outcome through two Key Mediators
	• Cooperative behaviour is a success criterion
	• Relationship Marketing originates from global markets + competition
		• Model of adjusted communication according to the relationship marketing process phase
		  • Pre: Branding/Awareness, unidirectional
		  • Negotiation: Selection, bi-directional
		  • Development: Info exchange/commitment
		• Philosophical views (ethos, pathos + logos)
			• Buyer commitment directly affects vendor share of business by concurrent interrelated changes in trust and satisfaction and perception of relational value.
			• No synergies through a mix of three key mediators on objective vendor performance

Future Research Questions	• Other types of antecedents, e.g., of shared values like services	• Empirical model application • Impact of communication on activities	• What is the link and impact of Relationship Marketing activities on actual performance?

Source: Author (2012–2017) this table briefly summarises the content of the journal articles cited.

Table 2.12 Journal Articles 4–6 to Relationship Marketing/Sales

Source	Paparoidamis and Guenzi (2009) An empirical investigation into the impact . . . *European Journal of Marketing*	Avlonitis and Panagopoulos (2010) Selling and sales management: . . . *Industrial Marketing Management*	Rodriguez et al. (2014) CRM/Social Media Technology: Impact on Lead . . . *Journal Marketing Development + Competitiveness*
Objective	• Develop + test model: Impact of Leadership Quality & Relational Sales on Effectiveness	• Advance research in B2B-Selling and Sales Management to meet business requirements	• Understand how buyer-oriented technology impacts activities and performance
Definition Relationship Selling/Sales Performance	• Is "a strategic approach developed by a supplier willing to establish long-term and mutually profitable relationships (…)" (1056)	• None	• Is the "behaviour evaluated regarding its contribution to the goals of the organisation" (87)
Research Lenses	• Relationship Marketing/Selling • Customer Orientation	• B2B-Sales (Sales Management, Sales Force Automation, Knowledge-based Sales)	• Customer Orientation/Technology • B2B-Sales Performance
Research Nature	• Conceptual/Exploratory/Empirical	• Conceptual/Empirical	• Exploratory/Empirical
Dimensions/ Variables	• Two relational behaviours of salespeople: Customer oriented + Adaptive selling • Two antecedents: Relational Selling + Leader-Member Exchange • One outcome: Sales Effectiveness	• None	• CRM Effectiveness, Social Media Usage • Buyer Orientation processes • Outcome: B2B-Sales Performance
Sample Size (Industry, Region)	• 164 Dyads: Sales Manager – Salespeople • 278 (211) Questionnaires Managers (Reps) • Cross-Sector, France	• 4 of 26 presented papers • Cross-Sector (Services, Medical Devices) • US/Global Scale	• 1699 business and sales executives • Cross-Sector mainly: Consulting, Service, Software • Global Scale
Research Methodology Qualitative/Quantitative	• Literature Review • 15 personal interviews (field salespeople) • SEM with LISREL (Linear Structural Relations)	• Double-blind Review • Recommendations of Review committee as Selection criteria	• Literature Review (cross-sectional) • Data Collection: Email Link to Online Survey • Confirmatory Factor Analysis etc.
Leitmotif	• Study the impact of leadership quality and relationship selling, identifying antecedents of relational behaviour on sales effectiveness	• Address gap between the decrease of published articles on sales, rising practitioner demand to manage the sales function	• Understand interplay Technology + Performance • Positive Impact of CRM/Social Media on Activities
Notable Results/ Conclusions	• Relationship Selling and Leadership-Member Exchange intensify the relational behaviour • Salespeople behaviour positively impacts sales effectiveness • Focus on KPI (bottom line) instead of soft measures (buyer trust/satisfaction)	• Identify a relevant set of sales areas for scholars and practitioners • Provide an overview of relevant topics, e.g., • Relationship Management • Sales Force Automation • Key Account Management	• Technology (CRM/Social Media) has a positive impact on buyer-oriented processes in B2B • Technology must be combined with buyer-oriented Behaviour to affect KPI • Benefits: Coordination of Marketing + Sales with buyers, higher sales performance
Future Research Questions	• Include objective performance measures instead of just the self-developed ones	• Apply Social Media to enhance Sales processes and ROI	• Examine moderating effect (career level, size of firm) and rate of adoption across industries

Source: Author (2012–2017) this table briefly summarises the content of the journal articles cited.

2.3.2 Entrepreneurship/Innovation and Business Development Literature

While the marketing literature highlights the relationship building aspect of business development, the entrepreneurship literature calls attention to the *opportunity recognition* and *exploitation* aspects being critical to develop a thorough definition of Business Development and its process phases.

2.3.2.1 The Core Constructs

At the nucleus of Entrepreneurship/Innovation Studies is the entrepreneurial *opportunity* construct which represents a major theme in B2B-*Business Development* since "identifying and selecting right opportunities for new businesses are among the most important abilities of a successful entrepreneur" (Stevenson et al., 1985 cited by Ardichvili et al., 2003,105). Scholars differentiate between antecedents and effects of the two processes; recognition and exploitation of profitable opportunities and realising exceptional performance (Shane and Venkataraman, 2000; Holcombe, 2003; McMullen et al., 2007). *Recognition* or *discovery* pertains to entrepreneurs (Acs and Audretsch, 2003), in contrast to *exploitation* which is seen as a managerial responsibility (Veciana, 2007). This leads to the question whether the strategical entrepreneurial opportunity construct is transferable to the more operational context of the ERP/MES/Cloud vendor environment and which main characters are involved.

2.3.2.2 Similarities and Differences between the Main Characters

The entrepreneurial opportunity concept is linked to the creative and innovative character of entrepreneurs who recognise and exploit profitable opportunities ahead of time (Kirzner, 2009; Heinonen et al., 2011). In particular, the entrepreneur (e.g. a venture capitalist) holds the responsibility to predetermine the criteria (budget, revenue expectations, etc.) to create opportunities. In contrast, the B2B-business developer deals with the exploitation of opportunities which result in the acceptance or rejection by the sales function.

Though both entrepreneurs and B2B-business developers convey a similar image of personality traits, abilities and skills regarding corporate expectations, their roles usually differ in their strategic or operational scope, mandatory capabilities, and employment status. While the entrepreneur is initially a strategist, his capabilities include operational activities as well, dependent on the size of the business. The entrepreneur is usually self-employed (Alvarez and Barney, 2007). The B2B-business developer in the software context takes on a blended, operational and strategic role depending on the industry and the seniority level, generally with a corporate employee status (Davis and Sun, 2006; Sørensen, 2013).

Sørensen (2012b) draws a clear dividing line between Entrepreneurs and B2B-Business Developers arguing that the latter just assume one of the mandatory capabilities of successful entrepreneurs.

This does not preclude the fact that both main characters follow a similar process of recognising, evaluating and developing opportunities affected by factors like "entrepreneurial alertness; information asymmetry and prior knowledge; social networks; personality traits, including optimism and self-efficacy, and creativity; and type of opportunity itself" (Ardichvili et al., 2003,106). The ultimate purpose of marketing and sales of global software is about generating opportunities with future revenue expectations (Cohen and Winn, 2007).

Despite the blend of both characters, this research looks mainly at corporate business developers and neglects the real strategic and self-employed entrepreneur for several reasons. Firstly, B2B-Business Developers in the software industry act typically as 'integrating generalists' Sørensen (2012b) between Marketing and Sales. Secondly, their responsibility is rather operational, i.e. to build and feed the sales pipeline (Pöyry et al., 2017). Thirdly, B2B-Business Developers are usually not part of the C-Level suite or Venture Capital team but instead on a mid-career level which reflects the author's previous employment with a significant European software company.

2.3.2.3 Related Industry Studies

The leading studies on B2B-Business Development are typically on a strategic corporate level in industries such as IT or Biotech involving business development activities like venture capital financing or strategic alliances (Davis and Sun, 2006; Kind and Knyphausen-Aufseß, 2007). As experience shows, these BD activities face a high degree of risk and uncertainty.

The exploratory study of 26 SMEs in Eastern Canada by Davis and Sun (2006) sets a precedent for subsequent studies (Giglierano et al., 2011). Their definition of B2B-Business Development as "capability comprised of routines and skills that serves to enable growth by identifying opportunities and guiding the deployment of resources to extend the firm's value-creation activities into technological or market areas that are relatively new to the firm" is consequently primarily strategy oriented.

Another study by Kind and Knyphausen-Aufseß (2007) of 15 German SMEs in the biotech industry tends to be the exception since it identifies B2B-Business Development activities from a strategy-as-practice perspective. Though comparable to Davis and Sun (2006) B2B-Business Development activities include the commercialisation of products and technologies, it is also about the requirement to ensure a steady pipeline of opportunities.

Likewise, the longitudinal study by Keil et al. (2008) of the 110 largest US-companies in four technology sectors deals with strategic B2B-Business Development activities to positively impact the innovative performance in established companies within related industries.

A more recent study by Xiao (2011) of 74 Chinese high-tech SMEs differs slightly in terms of the industry. It distinguishes three phases from a financing standpoint and finds that by establishing personal relationships with high-tech SMEs financing is transferred from the formal to the informal sector.

Common to all these studies is that strategic B2B-Business Development activities are geared towards building enduring relationships to generate innovative and strategic opportunities by sharing tacit knowledge in the form of experiences, know-how and insight (Panahi et al., 2012; Arnett and Wittmann, 2014).

In the B2B-software context, the focal point is on the operational opportunity concept instead. Therefore, the thesis assumes that the more strategic definitions of B2B-Business Development may be transferable to a more operational level.

2.3.2.4 Contextualisation of B2B-Business Development

The review of academic journals indicated that B2B-Business Development is researched mainly in the Biotech-, IT- and Venture Capital-industries and that the following themes are of particular importance.

Common Themes:

B2B-Business Development can be defined as *capability* consisting of *routines* and *skills* to identify growth opportunities (Davis and Sun, 2006; Keil et al., 2008; Sørensen, 2012b). *Routines* include "processes for recognition of opportunities, generation and qualification of ideas (…)" (Buckman et al., 1998 cited by Davis and Sun, 2006,147). *Skills* encompass, besides education and experience of B2B-Business Developers, the interpersonal abilities to utilise business networks for seizing opportunities (Davis and Sun, 2006; Sørensen, 2012b). Also, skills are critical with regards to the behavioural research questions.

Expanding on the classifications by Davis and Sun (2006); Giglierano et al. (2011) the roles and responsibilities of B2B-Business Developers can be primarily deduced from activities. Scholars differentiate between operative (e.g. prospecting) and strategic (e.g. establishing partnerships) *activities* (Davis and Sun, 2006; Kind and Knyphausen-Aufseß, 2007; Keil et al., 2008). In contrast, Sørensen (2012b) specifies B2B-Business Development as operational *tasks* and *processes* to plan and support the strategic execution of growth opportunities. The identification, analysis, and pursuit of these opportunities are seen as similar tasks executed by Entrepreneurship, Marketing/Sales and B2B-Business Development (Sørensen, 2012b). This refers back to the Marketing/Sales interface that is aligned with B2B-Business Development. Yet, the strategic and organisational integration of marketing and sales is ignored in practice Malshe and Sohi (2009); Andzulis et al. (2012) and thus represents a gap in research.

Noteworthy Themes:

Growth or profitable *opportunities* in the B2B-software context can be considered as potentially profitable projects without yet being fully exploited (Casson and Wadeson, 2007; McMullen et al., 2007). They result in B2B-software *purchase transactions* which depend on close interactions between suppliers and buyers (Suh and Houston, 2010).

The B2B-software buying processes can range from four months to four years, 17 months on average (Stein, 1996; Gronau, 2001). Scholars recommend aligning the length of B2B-Business Development (1.5 years) and Sales (1-3 months) processes to improve the transaction processes (Jolson and Wotruba, 1992; Davis and Sun, 2006). Nevertheless, they fail to emphasise that buying processes must mirror the duration of both B2B-Business Development and Sales processes (Rodriguez et al., 2012).

There is an abundance of literature dealing with the B2B-purchase process involving high complexity, and ambiguity/risk (Cannon and Perreault Jr., 1999; Kuhn et al., 2008). B2B-software tender processes necessitate numerous buying centre contacts (Kuhn et al., 2008; Herbst and Merz, 2011). Purchase criteria (software functionality and performance) and B2B-branding are of the essence (Gordon et al., 1993; Michell, 2001; Kuhn et al., 2008). Hence, complex B2B-software buying processes in a VUCA (volatile, uncertain, complex, and ambiguous) context require *B2B-Business Development processes* which will meet these specific requirements.

Identifying B2B-Business Development processes in the literature can be challenging because of differences in industry, research lens, and practitioner experience. A major drawback to replicate the processes consists often in their unique industrial design. Following mainstream literature, this thesis assumes that B2B-Business Development processes generally include the identification of opportunities, exchange of information/knowledge and development of relationships/partnerships to co-create value though there are *no rules* as regards to the sequence of the process phases (Boyd and Spekman, 2004; Davis and Sun, 2006; Giglierano et al., 2011). The conjecture to determine Software Business Development processes presented in section 2.3.1 can be derived from the models illustrated in Figures 2.7,49 and 2.10,57 and replicating some phases of the sales cycle. While the Relationship Development process by Dwyer et al. (1987) includes the phases 'awareness, exploration, expansion, commitment and dissolution' the Relationship Communication Model by Andersen (2001) is structured in three phases, 'pre-relationship, negotiation and relationship development' with a potential termination phase. Likewise, Rodriguez et al. (2012) list process phases, for example, creating opportunities which are taken into account.

2.3.2.5 Discussion

In discussing the definition by Davis and Sun (2006), they hold B2B-Business Developers responsible for leveraging their business relationships towards profitable opportunities based on their background of networking, industry experience and tacit knowledge. Another argument is that B2B-Business Development activities can be viewed with regard to adopting a solution-oriented sales approach (Large and Conrod, 2003 cited by Davis and Sun, 2006,149).

One might also debate that both the strategic and operational opportunity concepts influence each other.

The ultimate purpose of developing innovative, strategic opportunities is to generate recurring revenue streams. Similarly, the interactions between buyers and vendors must be modelled in such a way that they lead to beneficial business transactions. The interaction also stimulates the creation of innovative product or service solutions dependent on the changes or requirements of the respective industry or business.

For the purpose of this thesis, the aspect of strategic entrepreneurial opportunities will be excluded. As mentioned before, B2B-Business Development activities like developing and testing product innovations are somewhat typical in the biotech industry but not typically part of the job requirements of B2B-Business Developers in EPR/MES/Cloud. In contrast, the emphasis is on the operational aspect. This is addressed in fact by business activities like feeding the pipeline to exploit profitable sales opportunities (Eidhoff and Poelzl, 2014; Turgeon, 2015; Pöyry et al., 2017).

The literature review reveals a scarcity of B2B-Business Development articles which are contained in Tables 2.13,70 and 2.14,71. These articles relate to entrepreneurship and innovation without providing a single overarching definition of B2B-Business Development (Davis and Sun, 2006). The majority of the scholars position B2B-Business Development on a rather strategic level with similar entrepreneurial activities dependent on the life cycle stage of the business (Kind and Knyphausen-Aufseß, 2007; Xiao, 2011).

For example, these activities involve venture capital for start-ups or strategic alliances for more established companies to obtain the knowledge to exploit opportunities (Keil et al., 2008). The B2B-Business Development processes are primarily comparable across the industries with the exception of a research & development phase determined for the development of new products/processes. This phase is usually omitted on a more operative level as is the case with B2B-Business Development in the ERP/MES/Cloud context.

The process-orientation of B2B-Business Development is consistent with entrepreneur behaviours based on the before mentioned abilities (identifying opportunities, etc.) classified mostly in exploratory studies (Shane, 2000, 2001; Ardichvili et al., 2003; Baron and Ward; 2004; Veciana, 2007; Sørensen, 2012b) . This is very much in line with the operational job requirements for B2B-Software Business Developers.

The lack of a coherent definition of B2B Business Development processes represents a potential gap which is also noticeable in the literature. For instance, Kind and Knyphausen-Aufseß (2007) model their B2B-Business Development processes after the specifics of a particular industry, i.e. biotech as investment decision-making process.

Moreover, the resemblance of Relationship Development processes (Dwyer et al., 1987; Andersen, 2001) and the fact that B2B-Business Development is viewed as a "specific kind of relationship marketing management" (Giglierano et al., 2011,29) might justify a replication.

One principal argument is that Relationship Marketing represents a core aspect of the B2B-Business Development cycle.

If, however, B2B-Business Development processes in the software industry are modelled after these concepts, critical aspects like venture-capital financing or developing new products might be ignored.

This leads to the overrating of specific activities/phases (managing relationships) and omission of others (developing new products). This exhibits another potential constraint.

Finally, the industry-specific insights of expert interviews, BD job descriptions, and pre-test influence the design and present a managerial limitation.

To date, scholars have paid little attention to the technology used for process enhancement (Evans and Volery, 2001). Though, Andersen (2005) explored the role of social networks in different relational phases and Andzulis et al. (2012); Rodriguez and Peterson (2012); Rodriguez et al. (2014) included new technologies sporadically in marketing/sales, the technology impact on the B2B-Business Development cycle remains underresearched.

Several potential research gaps are identifiable:

- A B2B-Business Development cycle specific to the global software industry has not been developed.
- Technology usage to render B2B-Business Development more efficiently is mostly ignored.
- Recent studies research Marketing and Sales functions in isolation despite their combination as B2B-Business Development liaison.

A particular research focal point consists of enhancing these processes even further by engaging new technologies to bridge these gaps.

Table 2.13 Journal Articles 1–3 to Entrepreneurship/Innovation & B2B-Business Development

Source	Davis and Sun (2006) Business development capabilities . . . *The Journal of Technology Transfer*	Kind and Knyphausen-Aufseß (2007) What is "Business Development"? . . . *Schmalenbach Business Review*	Keil et al. (2008) The effect of governance modes and relatedness . . . *Strategic Management Journal*
Objective	• Review the analysis of BD job descriptions, functions & attributes of Business Developers	• Examine daily B2B-Business Development activities from a strategy-as-practice view	• Study how external business activities (governance modes) impact the innovative performance
Definition Business Development	• Is "a capability comprised of routines and skills (…) identifying opportunities (…)." (146)	• All activities to create value and revenue potential, develop products/technologies for commercialisation, build relationships	• "External activities (…) external corporate venturing (…) enabling firms to acquire the know-ledge needed to exploit opportunities (…)." (896)
Research Lenses	• Strategic Management • Corporate Entrepreneurship/Innovation	• Strategic Management • Entrepreneurship	• Corporate Venture Capital, Alliances (gov. modes) • Organisational Learning/Innovation
Research Nature	• Exploratory/Empiric	• Exploratory	• Empirical/Longitudinal
Dimensions/Variables of Business Development	• Functions • Attributes/skills	• Functions • Process phases • Competences/Skills	• Dependent Variable (DV): Innovative Performance • Independent Variables (IV): Volume, Governance Modes, Relatedness
Sample Size (Company Size, Industry, Region)	• 26 interviews with Business Developers (BDs) • SMEs ≤ 300 employees, IT • Eastern Canada, North America	• 15 (19) interviews BDs (Venture Capitalists) • SMEs ≤ 174 employees, Biotech • Germany	• 110 largest public corporations ≥ 200 million USD • Four industries (information/communication) • US; Time: 1993 – 2000
Research Methodology Qualitative/Quantitative	• In-depth interviews • Regression Analyses	• Formal and informal interviews; Direct observation: one case study company	• Descriptive statistics, Correlations and Regression Analyses
Leitmotif	• (Co-)create value, identify opportunities • Accumulate tacit knowledge • Develop relationships/partnerships	• Create value, identify opportunities • Provide information and communicate • Develop relationships/partnerships	• Acquire knowledge to exploit opportunities • Leverage existing/tacit knowledge and resources • Develop relationships to share risks and resources
Notable Results/ Conclusions	• B2B-Business Development dimensions (Prospecting, extending value creation) • Business Developer dimensions (Resource-fullness, likeability; engagement, knowledge) • Entrepreneurship focus (differentiator)	• Definition of tasks (fill pipeline, prospect, commercialise products, negotiate deals) • Definition of the process (identify, evaluate, negotiate • Market focus (dynamic change)	• Understand the impact of external activities on innovative performance. • Venture-relatedness + innovative performance in similar industries (significant positive correlation) • Market focus
Future Research Questions	• What are Business Development practices? • How can Business Development be coordinated with other corporate processes? • What are measurements of effectiveness in B2B-Business Development?	• How is B2B-Business Development research conducted in companies with different industries, countries and regions?	• Study different learning outcome (extent of technological change) • Examine types of relationships resulting from B2B-Business Development

Source: Author (2012–2017) this table briefly summarises the content of the journal articles cited.

Table 2.14 Journal Articles 4–6 to Entrepreneurship/Innovation & B2B-Business Development

Source	Giglierano et al. (2011) Business development in the early stages . . . *Innovative Marketing*	Xiao (2011) Financing high-tech SMEs in China . . . *Entrepreneurship and Regional Development*	Sørensen (2012b) The Successful Entrepreneur: The Role of Market . . . *GMC Seoul, Korea*
Objective	• Discuss Business Development as marketing activity versus Personal Selling and Key Account Management activities	• Examine the financing of high-tech small and medium-sized enterprises (SMEs) at different stages of Business Development	• Outline a set of Business Development tasks and processes to coordinate and integrate the entire venture
Definition Business Development	• Is "specific kind of relationship marketing management" (29) • "Activities aimed at finding (…) sources of new revenue (…) (31)	• Three phases: 1) Start-up (develop products, prospect) 2) Early (produce products, build relationships) 3) Later (significant revenue growth) (220-221)	• Confusion about the definition of business life • "Market-oriented key capability for successful entrepreneurship" (4) • Preparatory tasks without a strategic decision (11)
Research Lenses	• Entrepreneurship/Innovation • Marketing	• Entrepreneurship • Strategy/Finance	• Entrepreneurship/Intrapreneurship • Strategic Management
Research Nature	• Conceptual/Exploratory	• Conceptual/Empirical	• Conceptual/Exploratory/Theoretical
Dimensions/Variables of Business Development	• Definitions and Functions • Business Development: Lifecycle stages	• Financing Strategies as a substitute for outsourcing production, decreasing labour	• Activities, tasks, processes • Entrepreneurial skill, organisational capability
Sample Size (Company Size, Industry, Region)	• 12 interviews with key decision-maker • Established/start-up firms • unspecified (old/new technology)	• 74 (9) face-to-face interviews SMEs (bank, government officials) • SMEs ≤ 250 employees, Biotech, IT, China	• Integrates views of various scholars in the area of • Business Development and Venture Capital • High Tech
Research Methodology Qualitative/Quantitative	• In-depth interviews • Comparison of two theoretical models	• Informal survey, interviews • Descriptive, chi-square	• Literature review
Leitmotif	• Commercialise disruptive innovation • Identify and address new opportunities • Build potential buyer/partner relationships	• Access to internal/external sources of finance • Informal financing dominates in the entire process (individuals/private firms)	• Upstream activities to qualify, prioritise growth opportunities (Senior Management and Function) • Downstream activities to monitor and implement opportunities
Notable Results/ Conclusions	• Business Development exceeds Key Account Sales activities (develop new relationships) • Entrepreneurship focus (find opportunities, create a business model, cooperate, launch and learn from experiences	• Self-financing to recognise new opportunities • Informal financing during all phases of SMEs depends on relationship building (trust, personal knowledge, reputation) • Market focus (formal: banks, government)	• Business Development efforts are vertical (line levels) and lateral (across functions) • Business Development is rather managerial than entrepreneurial • Market focus (competitive advantage)
Future Research Questions	• Does Business Development compared to traditional Marketing increase performance • Is Business Development useful to collaborate with visionaries in B2B	• None	• Conduct empirical studies and test propositions • Create Business Development measures and characteristics

Source: Author (2012–2017) this table briefly summarises the content of the journal articles cited.

2.3.3 Bringing Social Media Usage and B2B-Business Development together

Optimising Business Development with Social Media answers the research call of scholars like Avlonitis and Panagopoulos (2010); Marshall et al. (2012) and Rodriguez et al. (2016). The individual B2B-Business Development process phases in the software environment, as well as the impact of possible Social Media platforms which were identified in the literature, are illustrated below.

Table 2.15 Social Media Usage by B2B-Business Development Process Phases

Literature Review	B2B Business Development Process Phases			
Social Media Usage	Identify & prospect potential buyers	Share information & maintain knowledge	Build social networks & manage existing relations	Increase the number of leads & generate opportunities
Social Network Site Presence	✓		✓	✓
Personal/Corporate Profile	✓	✓		✓
Gated Access Approach		✓		
Virtual Community with restricted access		✓		
Blog/Microblog (with open membership/Twitter)	✓		✓	✓
Success Stories (Website)			✓	✓
Endorsement Icons/Likes			✓	
Electronic Word-of-Mouth			✓	
Written Recommendations			✓	
Social Capital / Contacts			✓	
Source: Author (2016)	• Kind and Knyphausen-Aufseß (2007); • Rodriguez et al. (2012); • Schultz et al. (2012)	• Chiu et al. (2006); • Papacharissi (2009); • Hennig-Thurau et al. (2010); • Michaelidou et al. (2011); • Lapidot-Lefler and Barak (2012)	• Chiu et al. (2006); • Lin (2008); • Vuori and Väisänen (2009); • Brennan and Croft (2012); • Rollins et al. (2014)	• Davis and Sun (2006); • Hoffman and Fodor (2010); • Agnihotri et al. (2012); • Schultz et al. (2012); • Sørensen (2012)

This section briefly explains how to adopt Social Media in the B2B-Business Development cycle while the underlying concepts will be later revisited and discussed in more detail.

1) *Identify and prospect potential buyers*

Social Media Profiles appear feasible to speed-up trust and visibility with gatekeepers by articulating self-disclosure and compensating for the absence of eye-contact and perceived anonymity. This allows B2B-Business Developers to avoid inaccurate information by bypassing outdated or restricted databases (Brown, 2011; Agnihotri et al., 2012; Luo et al., 2013). Additionally, B2B-Business Developers benefit from the 'online disinhibition effect'. Hereby, a certain measure of self-disclosure makes it much easier for them to uncover relevant contact information assuming benign communication and information-sharing with the gatekeepers (Suler, 2004; Lapidot-Lefler and Barak, 2012).

The author's view is that Social Media defuses disruptive cold calls/emails by offering meaningful conversations combined with storytelling based on profile information and commonalities (Cano et al., 2005; Rodriguez et al., 2012; Kim, 2016). Rodriguez et al. (2012); Artesiansolutions (2014) support this view stating that Social Media integrated with CRM systems allow to access critical contacts more efficiently and quickly through interactions and conversations, thus shortening sales processes compared to traditional cold callers with obsolete databases. Brennan and Croft (2012) noticed that in the B2B-environment which is shaped by personal contacts, Social Media could be leveraged in the initial phase of the relationship as virtual word-of-mouth referrals, trust-builder and risk-mitigator.

2) *Share information and maintain knowledge*

Similarly to the first phase, Social Media can become instrumental in accessing challenging to obtain competitive intelligence like upcoming projects, emerging customer topics and tacit knowledge sharing (Vuori and Väisänen, 2009; Michaelidou et al., 2011; Panahi et al., 2012; Bernard, 2016). Business intelligence includes the "acquisition, interpretation, collation, assessment, and exploitation of business-relevant information" for decision-making support (Marshall et al., 2004,873). The individual competitive intelligence of B2B-Business Developers is coined by Rapp et al. (2015,360) as "the activity of gathering information concerning competitors and the competitive environment".

A study by Money et al. (2010) on the effect of reputation on buyer-supplier relationships, echoes that sensitive information is shared in an atmosphere of trust, mutual understanding and commitment. Caers and Castelyns (2011) noticed that habitual LinkedIn users increasingly base their decisions on information that this media offers them. Bolton et al. (2013,254) state that social networking sites and blogs represent "a potential source of market intelligence" useful in marketing particular software solutions. Furthermore, blogs serve as a means to share information (Cheung and Lee, 2010) and to "establish companies as thought leaders" (Katona and Sarvary, 2014,145). Information/knowledge sharing through Social Media includes "receiving, using and giving information" behaviours, and makes a vital contribution to developing relationships (Agnihotri et al., 2012,338; Hunter, 2014).

This relates to the view of Cannon and Perreault Jr. (1999) that information exchange is one of the B2B-key relationship connectors. For example, suppliers who share confidential information to a certain degree with prospective buyers, initiate thereby trustworthy relationships (Doney and Cannon, 1997). Conversely, B2B-Business Developers leveraging Social Media accelerate the information exchange speed (O'Leary, 2011; Agnihotri et al., 2012) by positioning themselves by expertise and power (Doney and Cannon, 1997) as a "person like me" (Peters et al., 2010,411) and credible/trusted advisor for their prospects (Palmatier, 2008). Thus, enhanced communication impacts the quality of the information gathered (Khojastehpour and Johns, 2014). Finally, Arnett and Wittmann (2014) find that sharing 'tacit knowledge' can enhance the speed of processes and the performance of Marketing and Sales. To sum this up, Social Media might create the ideal preconditions to access relevant and updated information efficiently.

3) *Build social networks and manage existing relations*

In B2B, Social Media is primarily used in B2B-Business Development to initiate the relationship, whereas in Sales face-to-face contacts prevail which are subsequently complemented by Social Media engagement (Heinonen and Michelsson, 2006). While Panahi et al. (2012) perceive building of relationships fundamental for social networking sites, Weidman et al. (2012) see Social Media as critical to expand and preserve these networks of contacts by generating referrals and acquiring new business (Agnihotri et al., 2012). Hereby, the Commitment-Trust Theory of Morgan and Hunt (1994) is critical given managing existing B2B-buyer-vendor relationships in high-risk and uncertain technology markets (De Ruyter et al., 2001; Brennan and Croft, 2012).

As stated before, trust expresses itself interpersonally and organisationally, being developed to some extent through information transparency (Doney and Cannon, 1997; Gassenheimer and Manolis, 2001; Seppänen et al., 2007). Trust impacts relationship commitment as a criterion to distinguish fruitful relationships from empty ones (Morgan and Hunt, 1994; Lages et al., 2008,688).

Especially, Social Media-savvy Business Development Executives regularly communicate, engage and follow up with existing customers via (micro-)blogs and SNS. Likewise, these professionals benefit from the fact that Social Media accelerates the trust formation (Salo, 2017) and that they are perceived as trusted peers on Social Networks since they share "similar ideas and interests" (Peters et al., 2010,411), though being total strangers.

Consequently, the author considers Social Media as one of the fundamental concepts to identify and reach the relevant decision-makers more effectively, accumulate Social Capital and generate new business through knowledge sharing, referrals and success stories (Baehr and Alex-Brown, 2010; Andzulis et al., 2012; Bolton et al., 2013; Agnihotri et al., 2016).

4) *Increase the number of leads and generate opportunities*

Social Media affect the outcome of Business Development activities (Hoffman and Fodor, 2010; Rodriguez and Peterson, 2012). The conceptual similarity between 'leads' and 'opportunities' causes confusion. Traditionally, leads are defined as qualified prospects who are contacts with the buying decision-making ability and willingness to be contacted by sales (Rodriguez et al., 2012; Wilcox and Sussman, 2014). Contrarily, B2B-Business Developers define leads rather as potential contacts to identify and initiate the relationship with key decision-makers (Scott, 2013; Moore et al., 2015). These high-level contacts, in turn, serve as an enabler of opportunities for B2B-Business Development (Quinton and Wilson, 2016).

The requirements for 'qualified opportunities' are more extensive including relevant contact data, revenue thresholds for target industries, business pains/signals, project budget/priorities, and successful pre-qualification conference calls (Schultz et al., 2013). Salespeople have a several-week denial right for opportunities generated by B2B-Business Developers and pre-approved by their Senior Management.

Social Media can be compelling to identify suitable key contacts (qualified leads) and generate approved opportunities resulting in short-term, conceivable new business (Kazienko et al., 2013). By optimising this process phase, Social Media allows enhancing the lead quality, minimising the acquisition costs of new buyers and shortening the B2B-Business Development cycle (Agnihotri et al., 2012; Rodriguez and Peterson, 2012).

2.4 Business Performance Measurements Literature

B2B-Marketing/Sales representatives deal with rather lengthy purchase transactions of global software which calls for rethinking according to performance measures (Avlonitis and Karayanni, 2000). This is supported by Davis and Sun (2006); Sørensen (2012b) suggesting that future research considers instruments to determine the effectiveness of B2B-Business Development.

Scholars differentiate between outcome-, process- and relationship-based dimensions to measure business performance while they distinguish among a process-, output- (number of new SNS contacts) and (non-)financial outcome-dimension for Social Media performance (Jussila et al., 2011).

Moreover, studies in Relationship Marketing (Hennig-Thurau et al., 2010; Trainor, 2012) and Sales (Andzulis et al., 2012; Rodriguez et al., 2012) foresee the decline of Traditional Media effectiveness caused by Social Media (Clark and Melancon, 2013).

2.4.1 Contextualisation of Business Performance Measures

Gauging the effectiveness (ROI) of Social Media stays a challenge for practitioners (Hoffman and Fodor, 2010; Taken Smith et al., 2015). Hence, this research embraces quantitative and qualitative Business Performance components being discussed from a theoretical and practical point of view. It answers the call of Avlonitis and Panagopoulos (2010) on how B2B-Business Development (BD) processes might be optimised by Social Media Usage from the point of view of generating a positive ROI early on along with sustainable improvements.

Adapted from Lenskold (2003); Kotler et al. (2008); Gilfoil and Jobs (2012) the B2B-Business Development ROI_{BD} is defined as Net Return from a BD Investment divided by the costs of the BD investment.

$$ROI_{BD} = \frac{Return}{Investment_{BD}} = \frac{Gross\ Margin - Investment_{BD}}{Investment_{BD}}$$

The ROI_{BD} determines the profits created by the investments in B2B-Business Development activities. Likewise, there is increasing practitioner interest in ROI-metrics for social media sites, blogs, and applications Fisher (2009) to vindicate social marketing investments (Powell et al., 2011). Another noteworthy performance measure represents the buyer's commitment to a particular B2B-vendor relationship (share of business).

Thereby, the buyer's perception of relationship quality is essential, which is chiefly affected by perceived trust and satisfaction (Vieira et al., 2014).

Reeves and Bednar (1994) recognise quality as the decisive force resulting in business growth, conformance to specifications and meeting buyers' expectations. The model proposed by DeLone and McLean (2003) to conceptualise and operationalise *IS effectiveness* technically (*systems quality*), semantically (*information quality*), and efficiently (*use/user satisfaction*, *individual* and *organisational impact*) applies to Social Media. Though the impact is inevitably long-term, the potential values are hidden resources in the form of key contacts in social networks (Baker, 2000), i.e. Social Capital formation eventually affects Performance (Bosma et al., 2004).

2.4.2 Types of Business Performance Measures

The literature generally suggests the following *types* of performance measures which can be applied to this research.

Firstly, scholars and practitioners alike regard the generated number of opportunities and new business contracts as the ultimate *outcome performance measure* (Anderson and Oliver, 1987; Rodriguez et al., 2012; Trainor, 2012; Quinton and Wilson, 2016). To achieve this type of outcome, Social Media Usage is justifiable from the earlier introduced DeLone and McLean (2003) IS success model.

Secondly, *process-based performance measures* look at the duration of Business Development processes varying with the complexity of marketing a particular software solution. Ahearne et al. (2007) noticed that information technology usage improved the process-based performance in terms of *efficiency*, i.e. performing activities less timely and costly) and *effectiveness*, i.e. executing activities more successfully. Employees interested in new technologies prove to be more productive and excellent when they incorporate these tools into their activities. Thus, compared to their averse peers Social Media-savvy B2B-Business Developers tend to gather and retrieve business intelligence faster and in a less costly manner (Kazienko et al., 2013). Lambert and Enz (2012) extend this view even further across the different functional business processes. Sharing tacit knowledge and skills through Social Media improves the collaboration and relationship among colleagues (Morgan, 2012). Overall, Social Media seems promising to accelerate business processes, implying faster and more reliable transactions or shorter sales cycles (Shih, 2009; Rodriguez et al., 2012; Rodriguez et al., 2014).

Thirdly*, relationship-based performance measures* play a role in developing new business. Colgate and Danaher (2000) admonish that the costs to acquire new customers through Relationship Marketing strategies were around *five times* higher than to nurture established clients. Relationship building activities positively impact performance outcomes like sales growth, market share and profitable business contracts (Morgan and Hunt, 1994; Khojastehpour and Johns, 2014; Quinton and Wilson, 2016).

Scholars recommend weighing the advantages and shortcomings of Relationship Marketing strategies to carry out activities which lead to loyalty and satisfaction (Colgate and Danaher, 2000; Palmatier et al., 2006). The *Return-on-Relationships (ROR)* for buyers and suppliers reflects the long-term net financial outcome affected by the network of professional connections (Gummesson, 2004).

For this thesis, the *Return-on-Relationships* is particularly interesting for several reasons. Concerning *Social Capital* as "investment in social relations with expected return" social networks are leveraged to initiate relationships successfully (Lin, 2002,30; Lin, 2008). Moreover, mutually beneficial relationships are shaped and nurtured by aligning practitioner processes, resources and competencies (Grönroos and Helle, 2012).

Another measure identified in the literature is the *Relationship Quality* a composite measure to describe the *strength* of relationships (Hunter and Perreault Jr, 2007; Rodriguez et al., 2012; Stephen and Galak, 2012). Various aspects of commitment, trust, mutual values, and satisfaction are assessed (Palmatier, 2008; Vieira et al., 2014). This measure is seen as critical to (co-)creating value and achieving sustainable competitive advantage (Olavarrieta and Ellinger, 1997; Nyaga and Whipple, 2011). Related to Social Media Platforms, the *Social Structure* determines how social networks of personal relationships affect economic outcomes (productivity) through the flow and quality of information and trust (Granovetter, 2005).

Fourthly, *media-based performance measurements* come into focus to comprehend the instrumental role of Social Media technology in the enhancement of operating processes (Rodriguez et al., 2014). It has been shown that technological advances enable professionals to better access, analyse and communicate information on shared interests (Hunter and Perreault Jr, 2007). By means of a Media-Task-Fit model, the most suitable platform features are assignable to individual process phases (Wang et al., 2017).

Academic and industry literature shows that Traditional Media are considerably more expensive regarding the reach and scale. Moreover, they lack the trust and relevance of Social Media (Blanchard, 2011). In contrast, the ROI as efficiency measure related to social media marketing activities is still disputed (Fisher, 2009). It still proves difficult to determine a precise ROI for Social Media which means it is either perceived from a *narrower* or *broader* perspective or even *neglected entirely* (Geho and Dangelo, 2012; Fontein, 2016). Accordingly, scholars suggest a three-dimensional unit of analysis framework, i.e. level of complexity (e.g. Industry), functions (e.g. B2B-Business Development) and measures (e.g. ROI) (Gilfoil and Jobs, 2012). However, scholars deem traditional Key Performance Indicators (KPIs) or financial ROI measures for Social Media usage as impracticable. Conversely, they support relationship-building measurements, primarily for research and prospecting activities (Hanna et al., 2011; Gilfoil and Jobs, 2012). Both media have their place in marketing programmes, yet it is critical to consider the proportion of the budgets since Social Media is more cost-effective regarding customer acquisition.

Currently, Social Media usage outcomes like referrals (electronic Word-of-Mouth) for customer acquisition are increasingly accepted (Hennig-Thurau et al., 2010; Rauniar et al., 2014). Similarly, qualitative benefits of Social Media usage, i.e. branding, credibility and customer ideas to create new solutions.

However, there are differences of opinion regarding the *perceived playfulness* of Social Media. It often still appears counterintuitive for practitioners to engage in Social Media during working hours for personal reasons (Rauniar et al., 2014). In contrast, this thesis takes a view in favour of *perceived playfulness*. The argument is that pleasure stimulates technology usage behaviour positively. Especially, technology-averse Business Developers might be encouraged to overcome their initial resistance towards Social Media usage. The increasing enjoyment of Social Media will support laggards in rendering their work processes more efficiently and might increase their usage intensity eventually (Rollins et al., 2014). Finally, there might be a shift from qualitative to quantitative measures in Social Media usage, once accumulated Social Capital results in actual business.

2.4.3 Discussion

The tables 2.16,80–2.17,81 contain a synopsis of the performance literature consisting of quantitative and qualitative concepts around the return, value or satisfaction of business relationships (Ulaga and Eggert, 2003; Gummesson, 2004; Neely et al., 2005). Lambert and Enz (2012) advise that these concepts require a cross-functional context. While some scholars question whether these concepts apply to Social Media, existing research refers back to the technology literature.

Petter et al. (2008) noticed that IS effectiveness requires both quantitative, ROI and qualitative concepts, Balanced Scorecard (Kaplan and Norton, 1996; Martinsons et al., 1999) and Benchmarking (Seddon et al., 2002). This enabled a better comprehension of business performance. Nair (2011) and Gilfoil and Jobs (2012) transfer this view to Social Media effectiveness. However, since complex B2B-transactions frequently require interim profits, quantitative performance measurements seem to prevail (Neely et al., 2000).

Another concern raised by scholars is the disparate usability of measurements for Traditional Media and Social Media. One argument is that Traditional Media measurements tend to be short-term and financially oriented, whereas Social Media is denigrated and has so far only been inadequately considered in B2B-Business Development processes from a budget point of view. For example, Hoffman and Fodor (2010,42) claim that "effective social media management should start turning the traditional ROI approach on its head" which implies that these media should increasingly strive for financial besides non-financial measures (Blanchard, 2011). The major challenge remains to determine what are the suitable KPIs and usage instruments (Hanna et al., 2011). Though scholars agree that "traditional marketing methods can no longer sustain a business" (Geho and Dangelo, 2012,61) the challengers of Social Media remain sceptical about its non-financial view and long-term outcome. This situation again renders classical ROI instruments problematic (Gilfoil and Jobs, 2012).

Subsequent articles support the integration of both media in ROI measurements because of the fact that global software transactions usually do not happen from one day to the next. Building business relationships takes considerable time (Quinton and Wilson, 2016). This might justify that Social Media usage gradually affects B2B-Business Development.

Other views towards the cross-functional value co-creation provide options about how the sometimes rivalling functions like Marketing and Sales can coordinate Social Media efforts, for example, to streamline tacit knowledge or information exchange processes according to a collaborative Service-Dominant logic (Vargo and Lusch, 2013). This can be initiated by B2B-Business Development acting as a liaison between those two functions. Thereby, B2B-Business Development coordinates cross-functional process activities towards the relationship with potential buyers.

Consequently, this thesis covers relevant quantitative and qualitative concepts to provide outcome measuring guidelines to practitioners though it focuses primarily on process enhancement.

Table 2.16 Journal Articles 1–3 to Business Performance

Source	Ulaga and Eggert (2003) Relationship Value in Business Markets . . . *Institute for the Study of Business Markets Report*	Gummesson (2004) Return on relationships (ROR): the value . . . *Journal of Business & Industrial Marketing*	Neely et al. (2005) Performance measurement system design . . . *International Journal of Operations & Production Management*
Objective	• Conceptualise Relationship Value in short- to long-term B2B-relationships	• Discuss the contribution of Relationship Marketing on Return-On-Relationships	• Suggest research programme for performance measurement
Definition Relationship Value (RV), ROR, Performance Dimension	• RV is the balance between benefits and costs in the relationships perceived by the B2B-buyer	• Return-On-Relationships (ROR) is the long-term financial outcome through building + maintaining relationships (141)	• Performance measurement: process or metric to quantify the efficiency + effectiveness of business activities towards customer satisfaction
Research Lenses/ Context	• Relationship • Business Marketing	• Accounting • B2B-Marketing	• Performance dimensions vary with function (e.g. Sales) • Key measures relate to quality, time, flexibility + cost
Research Nature	• Conceptual/Empirical	• Conceptual	• Conceptual
Dimensions/Variables/ Success Measures	• Dimensions of Relationship Value • Benefits (Solution, Know-how, Cycle Time [Technology, Information], Social) • Costs (product, processes)	• Quality (Revenue) • Productivity (Cost) • Profitability (Bottom-Line) • Lifetime/Net Value of Purchases • Customer Equity (Repeat Purchases)	• Balanced Scorecard, i.e. performance measurement system for practitioners (Kaplan and Norton, 1996) (financial, customer, core competency + learning view) • The Dimension of Sales and Marketing: Cycle time with measure: opps. development time divided by total time
Sample Size (Company Size, Industry, Region)	• 207 Purchasing Manager, Manufacturers, SME, Cross-sector, France	• Not Applicable	• Not Applicable
Research Methodology Qualitative/Quantitative	• Literature Review • Partial Least Square (PLS)	• Literature Review	• Literature Review
Leitmotif	• Conceptualise relationship value as a multi-dimensional construct • Identify five benefits + two costs dimensions	• Marketing Plan (Revenue, Sales, Market Share; ROR (Retention, Customer Share) • Activities (Select Relationship Portfolio, Balanced Score Card, Evaluate processes)	• Develop + Implement a performance measurement system for internal and external environment • Overcome cross-functional conflicts (different evaluation and reward of activities (e.g. cost vs. profit orientation)
Notable Results/ Conclusions	• Relationship Value as conceptual description and measurement • Benefits dominate in overall measurement compared to the costs	• Most ROR measurements centre on B2B-supplier-buyer dyads. • Continuous communication leads to better relationships (co-producer)	• Benchmarking to identify best practice increasing performance • Traditional performance measures tend to be suboptimal
Future Research Questions	• Evaluate the relationship value vs. characteristics (age, type of relationship) • Suggest ratio or amount (benefits vs. costs) • Integration in KMV model by Morgan and Hunt	• Not Applicable	• Design performance measures (systems) to support • inter-functional cooperation • appropriate behaviour • agility in coping with business change

Source: Author (2012–2017) this table briefly summarises the content of the journal articles cited.

Table 2.17 Journal Articles 4–6 to Business Performance

Source	Nyaga and Whipple (2011) Relationship Quality and Performance . . . *Journal of Business Logistics*	Gilfoil and Jobs (2012) Return on Investment for Social Media . . . *Journal of Business & Economics Research*	Lambert and Enz (2012) Managing and measuring value co-creation . . . *Journal of Marketing Management*
Objective	• Study the impact of Relationship Quality on Operational and Strategic Performance	• Develop a 'unit of analysis' framework for the measure of Social Media effectiveness	• Develop cross-functional, and company B2B-teams to co-create value
Def. Relationship Quality (RQ)	• RQ represents a measurement of the type of buyer-vendor relationships (346)	• Value is the result of the investment of time and money (639)	• Service-Dominant Logic views the exchange of goods as one of many interaction possibilities to co-create value
Research Lenses/ Context	• Resource-based • Relationship	• Web 2.0 • Viral Marketing (Electronic Word of Mouth)	• SD Logic • Marketing
Research Nature	• Exploratory	• Conceptual	• Exploratory/Empirical

Dimensions/Variables/ Success Measures	• Determinants: Commitment, Trust, Satisfaction, Relational Investments
	• Outcomes: Operational, Market, Financial Perform. Benefits: Satisfaction, Loyalty: Relationship Benefits
		• Level: Department
		• Function: Business Development
		• Measure: (Non-)Financial
			• Business Drivers for both buyers and vendors (service provider + beneficiary)
			  • Cost Savings
			  • Overtime reduction
			  • Time focus on key customers

Sample Size (Company Size, Industry, Region)	• 435 buyers, 290 suppliers (no dyads)	• Not applicable	• 4 final suppliers, 2 units of analysis buyer-supplier, cross-functional team
Research Methodology Qualitative/Quantitative	• Literature Review • Confirmatory Factor Analysis (CFA) • Structural Equations Modelling (SEM)	• Literature Review	• Case Study • Literature Review to ground the findings
Leitmotif	• Understand the impact of RQ on types of performance • Compare relationships from both buyer and supplier perspectives & type (collaborative versus arm's length)	• Define Social Media ROI according to different aspects: unmeasurable, measurable, measurable only financially	• Structure vital B2B-relationships according to SD Logic, Actionable framework to implement initiatives to co-create value
Notable Results/Conclusions	• RQ is more important than age to a successful relationship • RQ to assess the value of B2B-relationships (CRM)	• 3-dimensional conceptual model • Suggest a 'unit of analysis approach' for comprehension • Establish processes for Social Media metrics	• Cross-functional involvement mainly impacts financial performance • Three cycle phases of interactions (prepare value proposition, actualisation and determination
Future Research Questions	• Use dyadic samples • Include firm size as moderator variable	• Quantitative, projecting link between various Social Media Metrics + financial ROI	• Replicate knowledge in another context • Financial Measures to change the perception of value co-creation by cross-functional managers

Source: Author (2012–2017) this table briefly summarises the content of the journal articles cited.

2.5 Synthesis

This section presents the research questions and ties together the major research areas surrounding the critical concepts of B2B-Business Development, Social Media Usage and Performance Measurements by considering the gaps identified in the literature.

The emerging research questions arising in the literature and guiding this research are

- How can Social Media Usage and B2B-Business Development research be interconnected for different industries and regions in the software context?
- What are the important process phases in B2B-Business Development affected by Social Media?
- What are the Social Media platforms/channels engaged in the specific B2B-Business Development process phases?
- What are usage behavioural differences for example of various types of B2B-Business Developers within the organisation?
- What are the characteristics to moderate or mediate the relationship between the B2B-Business Development process phases and Business Performance?
- Does Social Media Usage ultimately accelerate the B2B-Business Development process?
- Which guidelines can be deduced for practitioners?

These research questions provide the ideas to reflect on the regional research scope, consider the interplay between B2B-Business Development processes, and identify appropriate performance measurements.

Firstly, to examine the Social Media usage impact on the B2B-Business Development process phases calls for selection criteria of suitable Social Media platforms for the different process phases and their interplay with Traditional Media. At this point, the study that considers *Professional* Social Media to render B2B-Business Development processes more efficient and effective appears genuinely innovative. By aligning Marketing and Sales within the B2B-Business Development liaison function and considering new technologies like Social Media, the currently often isolated siloed approach of both functions, Marketing and Sales is superseded.

Secondly, studying the Relationship Marketing and Sales Technology/Performance literature reveals business relationships between vendors and buyers with "the ultimate exchange of value (…) [as] basis of business" (Gummesson, 1994,12). Moreover, it reviews concepts to enhance B2B-Business Development processes by identifying critical activities/phases given its unique corporate liaison function. Hereby, the concepts of *trust* and *commitment* have a special status since they constitute lasting relationships.

Thirdly, examining the Entrepreneurial/Innovation literature reveals that though scholars recognise B2B-Business Development as a kind of corporate entrepreneurship, they cannot

agree on a precise definition of the underlying process. Though, there are several approaches to lay the conceptual groundwork to ascertain critical process stages with the chief purpose of generating opportunities these are very industry specific and somewhat strategic. The thesis adheres very tightly to the B2B-Business Development job specifications of global software vendors. This definition is entirely operative and takes the unique liaison role into account.

Fourthly, studying the *Social Capital/Usage Criteria* literature is underpinned by the extension of the Technology Acceptance Model/Technology-Task-Fit Theory to Social Media Usage and the extension of Social Media research within the Sales on the B2B-Business Development function. Thereby, it is of particular interest, how different generations of B2B-Business Developers leverage new technologies to render Business Development more agile.

Fifthly, the Business Performance literature involves critical quantitative and qualitative concepts, such as Return-On-Investment, Relationship Quality and Return-On-Relationships. These represent possible instruments to justify incorporating Social Media usage in the B2B-Business Development process and provide practitioners with guidelines and procedures.

The identified gaps for the various research areas are summarised in the figure below.

Figure 2.11 Detected Research Gaps

83
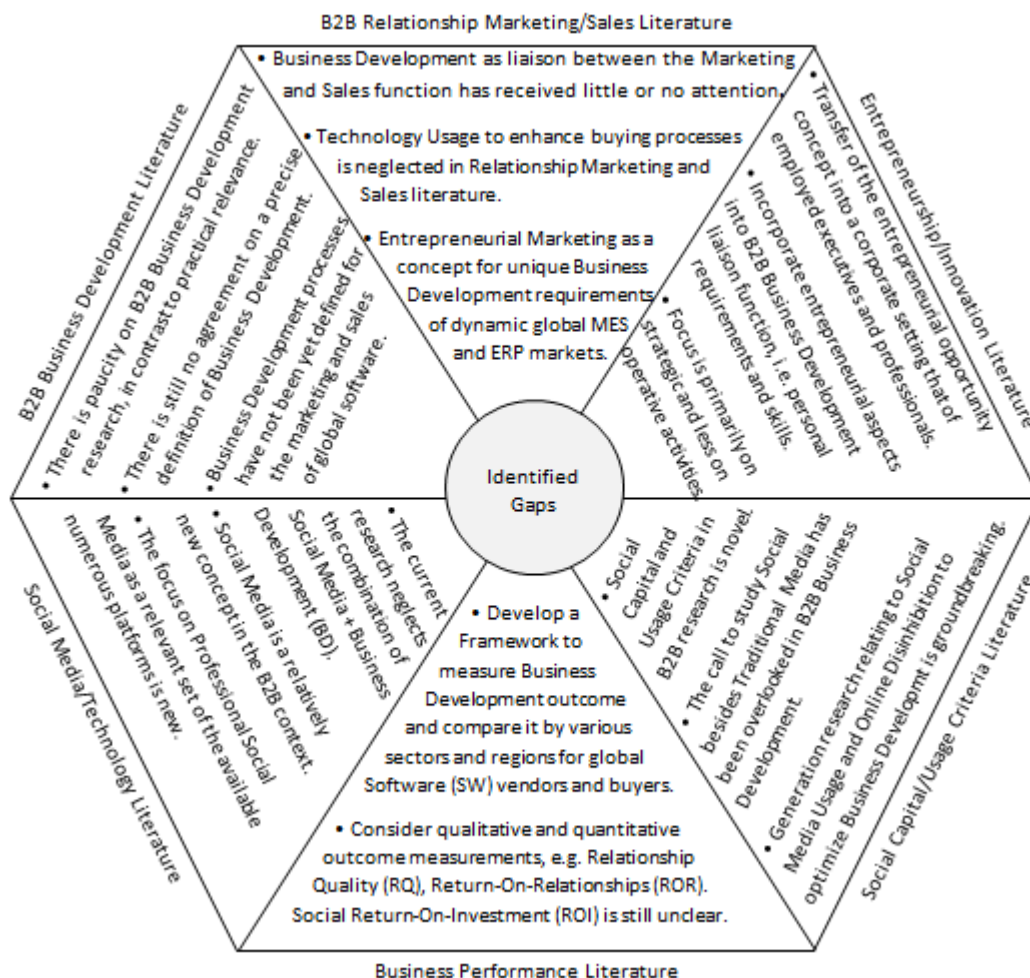
Both concepts, Social Media and Business Development have been studied separately and in different frameworks. This limitation may be overcome by examining how these concepts can be harmonised for overall business objectives. The necessity to investigate the integration of Social Media Usage in B2B-Business Development is evident. Since the research field of Social Media Usage within B2B-Business Development is a relatively new phenomenon with uncertain outcomes (Hoffman and Fodor, 2010,42; Rodriguez et al., 2012) it offers a brilliant complement (McCready, 2013).

Moreover, this research proposes that Social Media provides software vendors/third-parties/buyers with cost-efficient, informal and best practices to noticeably speed-up B2B-Business Development/Procurement processes. Optimising B2B-Business Development/Sales processes with Social Media responds to the research call by Avlonitis and Panagopoulos (2010) and Rodriguez et al. (2016).

Social Capital Theory and Usage Criteria, present insights on how prospective B2B-buyers can be ideally engaged through Social Networking Sites. Mainly, Social Capital Theory is leveraged to comprehend the impact of business connections within and between Social Media, suggesting that Social Capital improves by accessing qualitative, relevant and timely information (Adler and Kwon, 2002; Lin, 2008; Rodriguez et al., 2012).

Social Media, compared to Traditional Media, are still underutilised in B2B-Business Development partly because of the technological bias and savviness varying throughout the generations and organisational levels and that management still doubts their effectiveness.

In fact, Social Media have limits which consist of their current incapability to substitute traditional methods entirely (McCready, 2013). Social Media represents only a means to the end, i.e. Face-to-face/phone conversations remain imperative in the distribution of global software, especially in the final B2B-Business Development/Sales process phases (De Ruyter et al., 2001).

The Social Media advancement in B2B-Business Development is, however, unstoppable since it changes the agility and pace of business. In the academic literature, Social Media has received little attention and is either studied in B2B-Marketing or Sales (Brennan and Croft, 2012; Rodriguez and Peterson, 2012). Only minor conclusions can be drawn such as comparing related business development, marketing and sales activities.

Furthermore, the impact of generations has been neither specified in the B2B-sphere nor in terms of B2B-Business Development. Thus, this solely B2B-oriented research will contribute to the body of knowledge by distinguishing different generations of B2B-Business Developers regarding Social Media Usage.

While the strengths of Social Media Usage consists of accumulating Social Capital (Diffley et al., 2011) by accessing multitudes of new connections, its weaknesses might include jeopardising privacy (Joinson et al., 2010).

With this in mind, this research closes another research gap about how in Business Development a fine line can be crossed through applying the 'online disinhibition effect' in light of the different behaviour of individuals online versus face-to-face. For example, it will be examined whether B2B-Business Developers persuade gatekeepers to disclose information more readily by tapping into their contacts as efficient information sources, and enhancing communication and knowledge-sharing (Suler, 2004; Michaelidou et al., 2011; Joinson and Paine, 2012).

Overall, this research offers a possibility to break innovative ground and will add to the existing knowledge by earmarking B2B-Business Development processes of the software industry mainly concentrated in the DACH, Western European and North American region. For software vendors facing increasingly globalised competition and pressure, aligning their processes through Social Media offers a unique strategy to increase their agility and speed. Moreover, it supports in streamlining Social Media efforts to address that "only a few organisations employ Social Media in a consistent and productive manner" (Rodriguez et al., 2016,365) due to the "lack [of] a concentrated and consistent strategy" (Moncrief, 2017,275).

The purpose of this review sets the stage to frame the research hypotheses and suggest a conceptual model which will be tested during the empirical phase in Chapter 5.

Table 2.18,86 condenses the underpinning constructs, concepts and theories identified and referenced in the seminal literature and aligns these with the prevalent themes of the pilot study and job descriptions for B2B-Business Developers. This ensures a balanced view of scholars and practitioners. The main purpose is to deduce the essential constituents which are forming the conceptual research model proposed in Chapter 3.

Table 2.18 Constructs, Concepts and Support by Scholars & Practitioners

Literature Review/ Pilot Study/ BD Job Descriptions	Model Constructs							
	Professional Social Media Usage	B2B Business Development Process Phases				Social Capital	Usage Characteristics/ Criteria	Performance
		Identify + prospect potential buyers	Share information + maintain knowledge	Build social networks + manage exist. relations	Increase the number of leads + opportunities			
Underpinning Concept/ Theory	• Task-Technology-(Media) Fit (TTF) • Media Richness • Technology Usage • IS Effectiveness • IT Usage related Stress/Addiction	• Online-Disinhibit. • Strength of Weak Ties • Relationship Mktg. • Sales • Privacy • Self-Disclosure • Online Trust	• Social Ties • Building Trust • Mutual Values • Reasoned Action • Information Quality • Tacit Knowledge • Social Capital • Social Action	• Relationship Marketing • Marketing + Sales • Trust + Reputation • Social Capital • Social Exchange • Social Networks	• Commitment + Trust • Opportunity • Innovation • Entrepreneurship • Entrepreneurial Marketing • Social Media Mktg. • Sales	• Social Capital • Social Exchange • Social Networks	• Gender • Generation • Career Level • Usability • Playfulness • Savviness • Satisfaction • Usage Intensity	• Efficiency • Effectiveness • ROI • ROR • Sales Control • Value Co-Creation • Relationship Quality/Value
Support by Scholars	Goodhue and Thompson (1995); Kaplan and Haenlein (2010); Andzulis et al. (2012); Brennan and Croft (2012); D'Arcy et al. (2014); Keinänen et al. (2015)	Granovetter (1983); Suler (2004); Davis and Sun (2006); Peters et al. (2010); Joinson and Paine (2012); Mesch (2012); Moore et al. (2013)	Lin (2002); Hey 2004); Chiu et al. (2006); Ramos and Young (2009); Peters et al. (2010); Agnihotri et al. (2012); Panahi et al. (2012); Kazienko et al. (2013)	Morgan and Hunt (1994); Andersen (2001); Boyd and Spekman (2004); Palmer et al. (2005); Michaelidou et al. (2011); Rodriguez et al. (2012); (2014)	Morgan and Hunt (1994); Casson and Wadeson (2007); Avlonitis and Panagopoulos (2010); Rodriguez et al. (2012); Schultz et al. (2013); Wilcox and Sussman (2014)	Adler and Kwon (2002); Lin (2002); Lin (2008)	Howe and Strauss (2007); Cheung and Lee (2008); Ramos and Young (2009); Correa et al. (2010); Bolton et al. (2013); Keinänen (2015)	Gilfoil and Jobs (2012); Nyaga and Whipple (2011); Stephen and Galak (2012); Trainor et al. (2014)
Support by Practitioners	• Strongly linked with Platforms LinkedIn; Twitter • Sporadically Facebook; YouTube	• Yes, sometimes referred to as 'building rapport and connecting'	• Not really, referred to as 'listening to, researching or educating customer'	• Yes, often mentioned along with 'trust'	• Yes, also referred to as 'closing opportunities asking for business'	• Yes, but minority confuses concept with privacy issues	• Yes, linked with sociodemographic and technical savviness	• Yes, majority refers to network strength • Few mention quant. measures

Source: Author (2017)

3 Research Model and Hypotheses

3.1 Rationale

This chapter introduces the proposed conceptual research model, envisioning the emerging research questions presented in Chapter 1, being developed primarily from reviewing the literature in Chapter 2, yet considering the outcome of both, literature review and the exploratory pilot study and striking a balance between comprehensiveness and parsimony. In addition to the identification of the B2B-Business Development process cycle unique to the B2B-software context, another focal point is about determining the scope of Business Performance.

The overarching research question

How does Social Media Usage impact the B2B-Business Development process and ultimately contribute to Business Performance within a global software environment?

is at the heart of the conceptual research model presented in Figure 3.1,88.

Starting from this model, this research addresses several issues and priorities which are inspired by the idea of primarily optimising B2B-Business Development transactions to generate new, profitable opportunities by engaging Social Media in B2B-buyer-seller relationships from the begin of the process (Kaplan and Haenlein, 2010; Brennan and Croft, 2012).

Questions branching out from the primary constructs should shed light on what particular type of Social Media resonates within the individual process phases and how Social Capital and Usage Criteria individually and/or jointly might contribute to the overall Business Performance.

In view of that, this chapter introduces the formulated underlying hypotheses (H_1–H_{10}) with a comprehensive reference to their theoretical foundation. This chapter continues with highlighting the constructs of the research model, their definition, and operation. Besides presenting the major constructs, it provides the illustration of the sub-structure of the central constructs integrated into structural models (Figures: 3.2–3.7) and hypotheses (H_{11}–H_{16}). Furthermore, it depicts the definition and operation of the sub-constructs.

Figure 3.1 Proposed Conceptual Research Model

Identify and prospect potential buyers

Share information and maintain knowledge

Social Media Businesss Usage

Build social networks and manage existing relations

Increase the number of leads and generate opportunities

Optimise!

B2B-Business Performance*

H_{1+}

H_{2+}

H_{3+}

H_{4+}

H_{7+}

H_{8+}

H_{9+}

H_{10+}

H_{5a+}

H_{5b+}

H_{5c+}

H_{5d+}

$H_{6a+/-}$

$H_{6b+/-}$

$H_{6c+/-}$

$H_{6d+/-}$

Social Capital

Usage Criteria

*Definition in the narrow sense: Efficiency and Effectiveness (cf. Chapters 2,76–77 and 3,91)

Antecedent

Social Media Business Usage
Literature: Information Technology

Independent Variable

B2B-Business Development Process (Phases)
Entrepreneurship/Innovation;Relationship Marketing/Sales

Moderating Variable

Related Concepts
Social Capital/Technology

Dependent Variable

B2B-Business Performance
Quantitative/Qualitative Measures

Source: Author (2016)

3.2 Main Hypotheses

This section provides the definitions of the underpinning research constructs for the main hypotheses within the B2B-software context. The definitions primarily draw on the literature review considering the outcome of the pilot study and pre-test (Chapter 4.3,112).

Professional Social Media Usage and B2B-Business Development

The Literature review in Chapter 2 introduced the amalgamated definition of Social Media Usage such as creating and sharing information, communicating and building relationships within social networks, towards new business models (Safko and Brake, 2009; Hennig-Thurau et al., 2010). This definition is applied to B2B-Business Development as a liaison function respecting the suggestion of Andzulis et al. (2012) that Social Media engagement required the cross-functional collaboration of marketing and sales. The primary objective of this research is to develop a conceptual model which integrates Social Media usage in the B2B-Business Development process to affect this process positively in parts (individual phases) and in its entirety (process cycle) to predict a positive impact on specified elements of Business Performance (Figure 3.1,88).

Social Media Business Usage

The focus of attention is only on Social Media usage for *business purposes*. This represents the *antecedent* to the B2B-Business Development process phases in various ways, for example, Social Media are engaged to support amassing purchase-decisive information (Ramos and Young, 2009), developing committed buyer-supplier relationships (Ryssel et al., 2004; Simmons et al., 2010) and generating qualified leads (Wilcox and Sussman, 2014). It is expected that enhanced Business processes will ultimately affect the Business Performance.

By shaping B2B-Business Development processes similarly to Sales processes (Rodriguez et al., 2012) more efficiently and effectively, Social Media usage may affect the outcome (Hoffman and Fodor, 2010) mainly given the relational outcome and performance. Thereby, the Social Media/Technology usage antecedent is looked at from different angles, i.e. the identified B2B-Business Development process phases and related concepts. For example, the impact of technology usage on rendering Business Development processes more efficient and effective resulting in higher business outcome is supported by Ahearne et al. (2007); (Ahearne et al., 2008).

According to the literature review, the focus on *professional* Social Media considers media primarily used for business purposes. This helps to keep work-related issues like usage technostress, information overflow or intrusions in boundaries (D'Arcy et al., 2014). Moreover, professional Social Media usage is considered to be beneficial to B2B-Business Development and therefore engaged increasingly (Keinänen et al., 2015). Finally, the call for this kind of professional Social Media combination is acknowledged by Schultz et al. (2012,188).

Consequently, the formulated hypotheses conceptualise and express Social Media/Technology usage as more than a single item-construct with no traditional measure (Schultz et al., 2012) by assuming a complex construct with several items (Rodriguez et al., 2014).

B2B-Business Development Process

Though B2B-Business Development research has gained limited exposure in academic literature, it still has not generated a consistent definition for practitioners (Davis and Sun, 2006; Giglierano et al., 2011; Sørensen, 2012a). The literature review indicated a variety of definitions depending on the particular industry, BD job requirements and identified activities (Davis and Sun, 2006; Kind and Knyphausen-Aufseß, 2007). In the specific thesis context, both literature review and exploratory research encouraged to pursue a more operative, process/activities-oriented B2B-Business Development definition in line with the job requirements of B2B-Senior Business Developers in the ERP/MES/Cloud technology environment, instead of following the common strategic definition. For example, entrepreneurial behaviours, discovered in empirical studies, set the stage for B2B-Business Development activities like "the ability to search and gather information, the ability to identify opportunities (…), [and] the ability to establish relationships and networks" (Veciana, 2007,53). This definition of B2B-Business Development was confirmed mainly by the suggestions expressed by practitioners during the pilot study (Appendices A–B), BD job descriptions and understood within the framework of the formulated key hypotheses conceptualising the B2B-Business Development construct.

Social Capital and Usage Criteria

Both criteria are intended to be the *moderating variables* in the research model modifying the direction and strength between the *independent* (Business Development process) and the *dependent variable* (Business Performance) (Nahapiet and Ghoshal, 1998; Wasko and Faraj, 2005; Chiu et al., 2006 ; Walsh et al., 2008; Field, 2013).

The pilot study revealed that practitioners, in general, did not grasp the meaning and consequence of the concept *Social Capital*. To further clarify this concept, terms, like *networking* or *building up connections*, were provided. In contrast, this concept is intensely discussed for its various benefits (e.g. enhanced information quality) by Adler and Kwon (2002) and risks (e.g. strong ties discouraging new members to join a network) by Li et al. (2013).

Usage criteria for instance usage type, usage intensity, perceived playfulness and (socio)demographics were identified concepts in the literature. They were explored to understand how different usage behaviour and usage intensity might impact business performance (Rauniar et al., 2014).

Business Performance

Several practitioners in the pilot study highlighted the importance of including performance measures. The decision to introduce *Business Performance* as a *dependent variable* is based on the objective that process improvement ultimately positively impacts the ROI, ROR, and RV. To achieve this objective efficiently, this research considers Social Media Business usage following Strassmann (1985 cited by DeLone and McLean 1992,79) who recognised the impact of information systems on performance. This view is also supported by Boyd and Spekman (2004). Engaging in this media involves lower communication and transaction costs and enhances the information flows and transparency.

Thus, it is expected that the research model will be instrumental in measuring the impact of this media in the B2B-Business Development process to ultimately increase performance (e.g. new business deals) ahead of schedule. According to the literature review, Business Performance entails a process-, outcome-, relationship-, and a media-based dimension which was to some extent confirmed by the pilot study.

In addition, the classification of performance indicators by Zallocco et al. (2009) appears of particular interest for this research. The authors differentiate between two sets, firstly, *effectiveness* (sales performance) and *efficiency* (sales activities) and secondly, *internal knowledge* (product-specific) and *external knowledge* (market, industry, and competitor) oriented performance measures. From the aspect of transferability on B2B-Business Development and to circumvent an overly complicated model this research follows a *narrow* definition of Business Performance consisting of Social Media related Effectiveness (Pipeline, i.e. the Number of Opportunities submitted to Sales) and Efficiency (Less expensive, more flexible, agile, and faster B2B-Business Development activities/process phases).

Developing and Presenting the Hypotheses

How can B2B-Business Development processes be designed within the specific software research context? As stated before, it is broadly understood that B2B-Business Development processes differ with a particular research lens, for example, a specific industry or business.

The *first* phase of the B2B-Business Development process consists of identifying and screening the right buyer decision-makers/stakeholders. B2B-Business Developers are responsible for building awareness with prospective critical contacts involved in complex software purchase decisions, i.e. IT, Procurement, etc. Thereby, Social Media replaces outdated rolodexes to research and retrieve detailed prospect information (Shih, 2009; Rodriguez et al., 2012). While still over three-quarters of business technology buyers rely on their vendor selection and purchasing decisions primarily on peers, Social Media are increasingly engaged to obtain information guiding the purchase decisions (Ramos and Young, 2009). In this context, referring to their Social Media profile information during a call helps to create understanding and engage the target in a meaningful conversation while building and speeding up credibility, trust formation, and rapport (Palmatier, 2008; Quinton

and Wilson, 2016; Salo, 2017). Thereby, a right balance between privacy and self-disclosure in designing a meaningful profile content must be observed (Suler, 2004; Schiffrin et al., 2010; Joinson and Paine, 2012).

B2B-Business Developers might benefit from the 'benign online disinhibition' Suler (2004), i.e. leveraging a target's communicativeness as an information source to identify further vital contacts. This differentiates a Social Media-savvy B2B-Business Developer from the crowd of conventional professionals (competitors) who are generally perceived as a nuisance through cold calling (Shih, 2009; Artesiansolutions, 2014). Therefore, it is expected that B2B-Business Developers engaging in more effective Social Media might be able to accelerate this initial process phase by increasing the number and quality of key contacts over a defined period compared to their colleagues pursuing a tedious, inefficient, and traditional approach.

The *first hypothesis* to be tested is in line with the exploratory research outcome (Appendix A2) and backed up largely by literature (Moncrief and Marshall, 2005; Davis and Sun, 2006; Rodriguez et al., 2012).

> H_{1+}: Social Media Business Usage has a positive relationship on the B2B-Business Development process phase: *Identify and prospect potential buyers.*

The *second* phase of the Business Development process involves the exchange of transaction relevant product/service information with prospective buyers and upholding business domain knowledge, which consists of competitor knowledge to differentiate and tailor the offered solution, as well as, tacit knowledge to ensure a best possible buyer-vendor fit. In this context, scholars mention especially the *information quality* with its dimensions accessibility, believability, completeness, timeliness, and understandability (Lee et al., 2002); cf. Tables 2.6–2.7,39. In contrast, the practitioners in the pilot study viewed the second phase rather as an extension of the first one by mentioning activities like *building rapport and trust* as well as *educating and listening* (Appendix A2). This is accomplished by customer-oriented social media profiles or updates.

It is expected that Social Media supports in quickening and simplifying the reciprocate communication/information and knowledge exchange thereby rendering this phase more agile while ensuring higher quality. The *second hypothesis* is supported by the literature (Swani et al., 2014; Quinton and Wilson, 2016) and job description of B2B-Business Development executives in the Software industry (Apriso, 2011; Oracle, 2017; SAP, 2017).

> H_{2+}: Social Media Business Usage has a positive relationship on the B2B-Business Development process phase: *Share information and maintain knowledge.*

The *third* process phase consists of extending networks with current and potential customers and managing relationships. Scholars recognised that customer-oriented technology is critical in building business networks, for strengthening B2B-relationships and enhancing processes and performance (Avlonitis and Panagopoulos, 2010; Brennan and Croft, 2012; Rodriguez et al., 2012; Rodriguez et al., 2014).

The third hypothesis is a replication of parts of the studies undertaken by Brennan and Croft (2012) and Rodriguez et al. (2012) within the B2B-BD related Marketing and Sales areas.

The definition of this process phase comes close to the description of the practitioner experiences in the pilot study. By establishing *authentic, engaging and trustworthy* relationships (Appendix A2), this phase is considered to be especially important for the B2B-Business Development process because of its impact on subsequent sales processes. Thus, the *third hypothesis* suggests that Social Media Usage is instrumental in developing B2B-relations.

> H_{3+}: Social Media Business Usage has a positive relationship on the B2B-Business Development
>   process phase: *Build social networks and manage existing relations.*

The *fourth* process phase describes the individual/functional performance in conformity with the entrepreneurial business process of discovering, evaluating and exploiting opportunities (Shane and Venkataraman, 2000; Eckhardt and Shane, 2003; Veciana, 2007). Recognising opportunities is particularly vital given complex software solution selling (Davis and Sun, 2006). In the software business, B2B-Business Developers differentiate between leads, i.e. key contacts belonging to the buying centre (Johnston and Bonoma, 1981) and opportunities, i.e. emerging software business projects in the near future. Social Media is instrumental in identifying new business opportunities (Jussila et al., 2014) especially with LinkedIn classified as the leading social platform for generating B2B-leads (80.33%) versus Twitter (12,73%) (Colwyn, 2014). According to Glynn (2015), six to eight touch points are needed to generate a sales-ready opportunity.

The *fourth hypothesis* is supported by literature and the outcome of the pilot. Therefore, it is anticipated that engaging Social Media will provide B2B-Business Developer with the technology critical to generate a higher number of leads and improve the closing rate of new opportunities.

> H_{4+}: Social Media Business Usage has a positive relationship on the B2B-Business Development
>   process phase: *Increase the number of leads and generate opportunities.*

The *following hypotheses* examine whether *Social Capital* is convertible into economic advantages and allows to leverage the resources of existing (LinkedIn/XING) connections (e.g. targeting key decision-makers) with benefits consisting of "facilitat[ing] access to a broader source of information and improv[ing] information's quality, relevance, and timeliness" to "influence, power and control" to get things (e.g. prospecting) moving, and "solidarity" (e.g. shared norms, trust, and commitment), simplifying the initial relationship building (Adler and Kwon, 2002,21;29).

Moreover, these hypotheses address the assumption regarding whether it is sustainable that Social Captial optimises knowledge sharing processes or gaining relevant insights because of personal contacts (Baehr and Alex-Brown, 2010; Engelen et al., 2016).

This concept includes questions such as whether current network connections can be leveraged to identify, gain and exchange information of transaction-relevant buyer contacts, abbreviate the length of the B2B-Business Development process and eventually generate new business opportunities.

It is expected that Social Capital moderates the connection between the individual phases of the B2B-Business Development process and Business Performance.

Therefore, it is hypothesised that substantial Social Capital might empower B2B-Business Developers to engage Social Media efficaciously during all process phases and therefore positively impact Business Performance. Correspondingly, the conceptualisation of Social Capital is expressed by four hypotheses based on the Relationship Marketing, Sales and Social Capital literature (Van Deth, 2003; Palmatier, 2008; Rodriguez et al., 2012).

> H_{5a+}–H_{5d+}: Social Capital positively moderates the relationship between the Social Media Business Usage affected B2B-Business Development process and Business Performance.

The hypotheses concerning *Usage Criteria* focus on sociodemographic specific social media use (e.g. career level) in terms of technical savviness, perceived playfulness, perceived ease of use, usefulness and usage intensity. The expectation that younger B2B-Business Developers demonstrate different attitudes and behaviours compared to their more established peers might also apply to their gender. This is supported by the literature and the pilot study. For example, Keinänen et al. (2015) noticed that Social Media usage is inversely proportional with seniority level while Moore et al. (2015) observed differences in the usage intensity between operative salespeople and managers. Moreover, user characteristics (e.g. technophobia/-philia, resistance/acceptance, innovators/laggards, under-/overuse) may have significant implications on how Social Media are engaged.

Therefore, it is expected that most Usage Criteria positively moderate Business Development and Performance, especially when Social Media is engaged. This belief can be derived from the fact that technological savviness tends to increase sales performance by optimising the underlying processes (Ahearne et al., 2007). The moderating effects of Usage Criteria are articulated by the following hypotheses.

> H_{6a+}–H_{6d+}: Participants' usage criteria positively moderate the relationship between the Social Media Business Usage affected B2B-Business Development process and Business Performance.

To test how the adoption of Social Media in different phases of the B2B-Business Development cycle might affect Business Performance the following hypotheses are supported by research noticing a comparable impact on sales processes and performance (Rodriguez et al., 2012; Schultz et al., 2012).

Identifying and prospecting buyers (first BD process phase) with direct responsibility for software purchases through Social Media might render the Business Development process more efficiently and infer Business Performance by closing timelier business deals besides accumulating "good" Social Capital for future business development as "the aggregate of actual and potential resources embedded in social relationships" (Li et al., 2013,2419).

The same also applies to the second BD process phase. Established social capital provides better and faster *access to relevant information and firm-specific knowledge* about capabilities and trustworthiness of current and prospective partners towards collaboration, i.e. joint problem-solving (McEvily and Marcus, 2005). Strong ties linked to trust allow sharing fine-grained information (De Carolis and Saparito, 2006). Primarily, the information access to delicate buyer issues helps to customise the software proposal, thereby increasing the chance to be positioned on the short-list and win new business more rapidly. Maintaining a firm-/market specific knowledge is critical to developing innovative solutions and deepening the relationship (Davis and Sun, 2006). *The hypotheses for the first two phases* expect to lead to a *shorter* Business Development cycle and prompter, new-found business.

In addition, Social Media as a "relationship-building tool" (Metz and Hemmann 2011 cited by Schultz et al., 2012,187) indicates to make processes more efficient (Cannon and Perreault Jr., 1999) and improve the relationship quality (Palmatier et al., 2006) by facilitating interactive conversations between buyer and seller. The expected outcome of this *third BD process phase* implies that Social Media-shaped business processes create meaningful, profitable relationships, satisfied existing customers and new business (Rodriguez et al., 2012; Rodriguez et al., 2014). This also implies improving the quality of Social Capital.

Likewise, the hypothesis for *the fourth BD process phase* is about leveraging Social Media to fill the sales pipeline with *leads and opportunities* for the conversion into new or recurring business (Schultz et al., 2012; Schultz et al., 2013). Critical indicators are the quality and velocity (numerous interactions) with which these leads are turned into opportunities and the conversion rate of opportunities into actual buyers (Powell et al., 2011; Pöyry et al., 2017). Thus, it is implied that the following hypotheses might also test positively.

H_{7+}–H_{10+}: There is a positive relationship between the Social Media Business Usage affected B2B-Business Development process and the Business Performance.

The following table contains the conceptualisation and operationalisation of the suggested main constructs for the first ten hypotheses and their application within the final survey.

Table 3.1 Conceptualisation and Operationalisation of the Main Constructs

Conceptualisation		Operationalisation	
Construct	Definition	Source	Survey Question
Inclination to Social Media Business Usage 1st Dimension (ISMBU)	Social Media technology as a still new overall construct supports and simplifies the execution of various Business Development (BD) activities.	The composite scale is derived from Trainor et al. (2014); Keinänen et al. (2015)	Q1g (Appendix D1)
Hesitation to Social Media Business Usage 2nd Dimension (HSMBU)	This is a new construct which contains the viewpoints against Social Media Business Usage.	The scale is created based on Heinonen and Michelsson (2006); Michaelidou et al. (2011); Bolton et al. (2013); D'Arcy et al. (2014); Keinänen et al. (2015).	Q1h (Appendix D1)
Social Media Business Usage in the 1st BD process phase (SMBI)	Social Media (SocMed) as a tool to *identify and prospect buyers.*	The scale is adapted partially from Ahearne et al. (2008); Kaplan and Haenlein (2010); Agnihotri et al. (2012); Cicala et al. (2012); Joinson and Paine (2012); Mesch (2012); Rodriguez et al. (2012); Bolton et al. (2013); Kazienko et al. (2013).	Q2a (Appendix D2)
Social Media Business Usage in the 2nd BD process phase (SMBII)	SocMed as a tool to *share information and maintain knowledge.*	The scale is adapted partially from Anderson and Narus (1990); Lee et al. (2002); Ahearne et al. (2008); Cheung and Lee (2008); Agnihotri et al. (2012); Agnihotri et al. (2012); Panahi et al. (2012); Rodriguez et al. (2012); Trainor et al. (2014); Keinänen et al. (2015); Agnihotri et al. (2016).	Q2b (Appendix D3)
Social Media Business Usage in the 3rd BD process phase (SMBIII)	SocMed as a tool to *build networks and manage existing relations*.	The Scale is adapted partially from Morgan and Hunt (1994); Andersen (2001); Palmer et al. (2005); Hoffman and Fodor (2010); Agnihotri et al. (2012); Rodriguez et al. (2012); Rauniar et al. (2014); Rodriguez et al. (2014); Trainor et al. (2014); Keinänen et al. (2015).	Q2c (Appendix D4)
Social Media Business Usage in the 4th BD process phase (SMBIV)	SocMed as a tool to *increase the number of leads and generate opportunities*.	The scale is adapted partially from Shih (2009); Avlonitis and Panagopoulos (2010); Hoffman and Fodor (2010); Agnihotri et al. (2012); Rodriguez et al. (2012); Schultz et al. (2012); Graca et al. (2015); Keinänen et al. (2015).	Q2d (Appendix D5)
Social Capital (SCAP)	Social Capital is specified as a whole construct, comprising three dimensions: *Structural* (Network, Open Communication) *Cognitive* (Shared Values, Knowledge Exchange) *Relational* (Trust, Ties).	The scale is based upon items relating to the three dimensions + adapted partially from Adler and Kwon (2002); Lin (2002); Van Deth (2003); De Carolis and Saparito (2006); Doney et al. (2007); Joinson and Paine (2012); Rodriguez et al. (2012); Kline and Alex-Brown (2013); Li et al. (2013); Keinänen et al. (2015).	Q3a (Appendix D8)
Usage Criteria (UCRIT)	Usage Criteria are specified as a comprehensive construct Socio-Demographics, Perceiv. Playfulness, Techn. Savviness.	The scale is adapted partially from Howe and Strauss (2007); Cheung and Lee (2008); Correa et al. (2010); Rauniar et al. (2014); Keinänen et al. (2015).	Q3b (Appendix D9)
Business Performance (PERF)	Business Performance is defined in a very narrow sense as a comprehensive construct of *Efficiency* and *Effectiveness*.	The scale is adapted partially from Sujan et al. (1994); Avlonitis and Panagopoulos (2010); Hoffman and Fodor (2010); Agnihotri et al. (2012); Gilfoil and Jobs (2012); Rodriguez et al. (2012); Schultz et al. (2012); Li et al. (2013).	Q3c (Appendix D10)

Figures 3.2 – 3.6 contain the graphical representation for the hypotheses of Social Media Quality, Social Media Business Usage, Sociodemographics/Usage Criteria, Social Capital and Business Performance based on literature and pilot. These were regarded as *preliminary* and were excluded or condensed since they would have added to the model complexity.

Figure 3.2 Structural Model of Social Media Quality
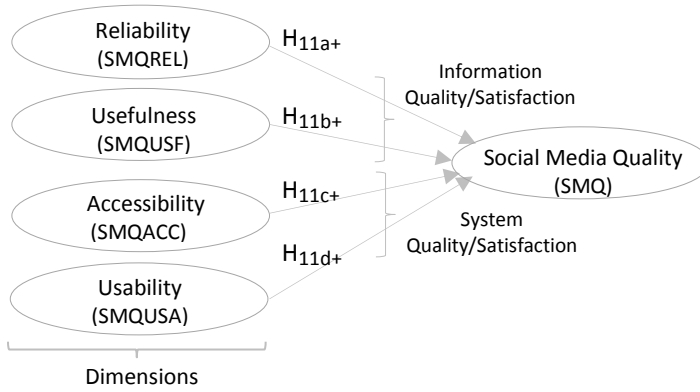
Note:

The Hypotheses H_{11}–H_{13} presented in Figures 3.2–3.4 were tested as evidenced in Appendices L10–L14.

H_{11a+}–H_{11d+}: There is a positive relationship between the determinants of Information Quality/System Quality and Social Media Quality.

Figure 3.3 Structural Model of Social Media Business Usage Inclination
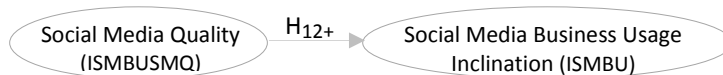
H_{12+}: There is a positive relationship between Social Media Quality and Social Media Usage Inclination.

Figure 3.4 Structural Model of Social Business Usage Intensity
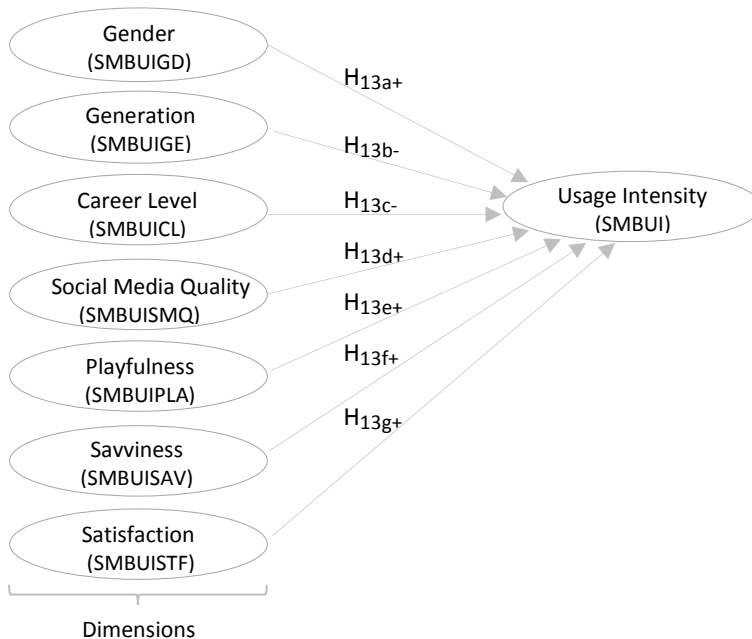
H_{13a+}–H_{13g+}: There is a mixed relationship between Sociodemographics/Usage Criteria and Social Media Business Usage Intensity.

Figure 3.5 Structural Model of Social Capital

H_{14a}–H_{14f}: Dimensions like Social Interaction Ties, Trust, etc. have a postive impact on Social Capital.

Figure 3.6 Structural Model of Business Performance
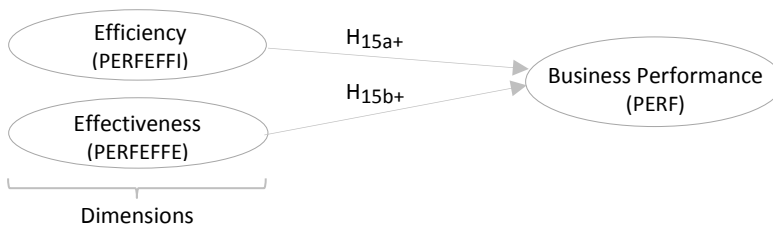
H_{15a+}–H_{15b+}: Efficiency and Effectiveness Measures have a positive impact on Business Performance.

3.3 Conceptualisation of the Determinants of Business Development

This section briefly describes the *underlying subconstructs* impacting the main constructs identified predominantly in the literature review.

As pointed out earlier in a global, B2B-context, *relationship commitment* and *trust* become critical for *cooperation*. Thereby, trust is the perceived credibility, and benevolence buyers place into a vendor becoming more critical with complex, tailored (software) solutions (Anderson and Narus, 1990; Doney et al., 2007). By means of Social Media Usage, the *online* trust formation can be accelerated (Salo, 2017). This includes social behaviours, i.e. sharing information (open communication) and understanding the buyer (customer orientation) besides social interactions (Williamson, 1998). In contrast, *offline* trust occurs primarily in face-to-face communication (McKnight and Chervany, 2002; Shankar et al., 2002). Trust is established between organisational vendors and buyers and/or between related individuals, like B2B-Business Developers and gate keepers/key contacts (Doney and Cannon, 1997). In B2B-exchanges, relationships are governed by reciprocal norms (Bunduchi, 2008). Ultimately, trust and relationship commitment should kindle the bonding between vendor and buyer to ensure productive collaboration (Gounaris, 2005).

Figure 3.7 Structural Model of the underlying Concepts of B2B-Business Development
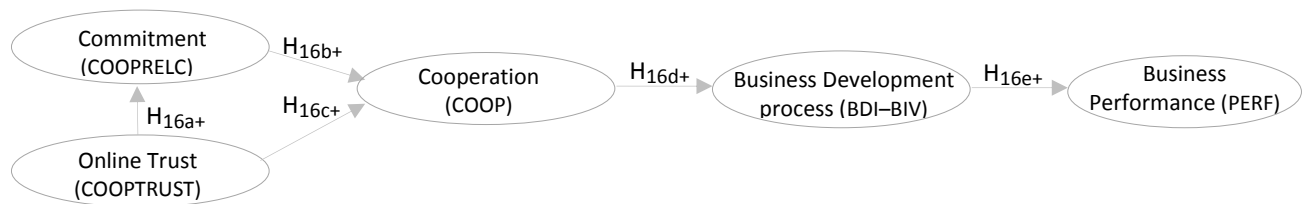
H_{16a+}–H_{16e+}: Online Trust contributes (via Relationship Commitment) positively to Cooperation. This renders the B2B-Business Development process (individual phases and entire cycle) more agile, flexible and ultimately impacts Business Performance.

The following table displays the definitions and operationalisations of the sub-constructs.

Table 3.2 Conceptualisation of the underlying Concepts of B2B-Business Development

Conceptualisation		Operationalisation	
Subconstruct	Definition	Source	Survey Question
Trust (TRUST)	Level of buyer confidence in vendor's reliability and integrity. Perceived credibility and benevolence buyers place into a vendor.	Morgan and Hunt (1994); De Carolis and Saparito (2006); Doney et al. (2007); Nyaga and Whipple (2011).	3d (Appendix D11)
Relationship Commitment (RELC)	Both buyers and vendors perceive the continuation of their relationship as very important, thus making it their main priority.	Moorman et al. (1992); Morgan and Hunt (1994); Kale et al. (2000); De Ruyter et al. (2001); Ryssel et al. (2004); Nyaga and Whipple (2011).	3d (Appendix D11)
Cooperation (COOP)	Both trust and relationship commitment impact cooperation.	Anderson and Narus (1990); Morgan and Hunt (1994); Hewett and Bearden (2001); De Ruyter et al. (2001); Lages et al. (2008).	3d (Appendix D11)

3.4 Discussion

This chapter introduces the research framework and hypotheses illustrated in Figure 3.1,88. The research model was developed in line with theoretical conjectures from seminal literature and conducting exploratory research in the form of semi-structured expert interviews during the pilot study. It will be empirically examined in the form of a pre-test and a large-scale online survey with vendor-, third-party-, and buyer-executives.

Thereby, the fundamental concepts, Social Media Business Usage (antecedent) and B2B-Business Development process (independent variable), are conceptualised by Hypotheses H_1–H_4, while the relationships of Social Capital and Usage Criteria (moderating variables) are conjectured by Hypotheses H_5 and H_6.

The ultimate impact on the Business Performance (dependent variable) is described by Hypotheses H_7–H_{10}.

Moreover, the comprehensive substructure of Information Quality, System Quality, Usage Criteria, Social Capital and Business Performance is explained by the sub-hypotheses H_{11}–H_{15}. The underlying concepts influencing the Business Development process phases are covered by H_{16}. The tests for the hypotheses H_{11}–H_{16} are evidenced in Appendices L10–L14.

Overall, the conceptual research model assumes that Social Media Usage within the B2B-Business Development process (predictor/independent variable), in parts (individual phases) and in its entirety (process cycle), will impact the Business Performance (outcome/dependent variable) positively.

An overview of the constructs identified in the literature review is presented in Tables 3.3–3.5. Table 3.3 exhibits the selected determinants of the B2B-Business Development process; Table 3.4 highlights the attributes for inclusion/exclusion in the research model and Table 3.5, the outcome, Business Performance. The objectives of the (sub-)hypotheses are demonstrated in Tables 3.6.

Table 3.3 Determinants of the B2B-Business Development Process

Determinants of the B2B-Business Development process	Supporting Literature BD Job Descriptions Apriso (2011); Dassault Systems (2017); SAP (2017)	Included/ Excluded	Rationale
Develop new products, services and solutions, i.e. Innovations (R&D Function)	Davis and Sun (2006); Kind and Knyphausen-Aufseß (2007); Giglierano et al. (2011); Roberts et al. (2016).	Excluded	New Product Development belongs to the strategic level and is not part of operative BD job description.
Identify and prospect potential buyers (1st phase)	Shih (2009); Arndt and Harkins (2012); Rodriguez et al. (2012); Schultz et al. (2012).	Included	A key component of operative BD roles and responsibilities.
Share information and maintain knowledge (2nd phase)	Chiu et al. (2006); Heinonen and Michelsson (2006); Agnihotri et al. (2012); Schultz et al. (2012).	Included	A key component of operative BD roles and responsibilities.
Build social networks and manage existing relations (3rd phase)	Morgan and Hunt (1994); Davis and Sun (2006); Avlonitis and Panagopoulos (2010); Giglierano et al. (2011); Rimlinger (2011); Agnihotri et al. (2012).	Included	A key component of operative BD roles and responsibilities.
Increase the number of leads and generate opportunities (4th phase)	Davis and Sun (2006); Avlonitis and Panagopoulos (2010); Giglierano et al. (2011); Rodriguez et al. (2012); Sørensen (2012b).	Included	A key component of operative BD roles and responsibilities.
Follow-up with and understand existing customers (Sales Function)	Morgan and Hunt (1994); Davis and Sun (2006); Rodriguez et al. (2012); Schultz et al. (2012).	Excluded	A key component of the sales function once opportunities are submitted by BD.

Table 3.4 Attributes of B2B-Business Developers

Attributes of the B2B-Business Developers	Supporting Literature	Included/ Excluded	Rationale
Age, Age Group	Hunter and Perreault Jr (2006); Schultz et al. (2012).	Excluded	Is substituted by Generation.
Generation	Howe and Strauss (2007); Bennett et al. (2008); Jones and Fox (2009); Schultz et al. (2012); Bolton et al. (2013).	Included	Represents current view; Is encapsulated in Usage Criteria (Moderator) to reduce the model complexity.
Gender	Ramos and Young (2009); Correa et al. (2010); Porter et al. (2012).	Included	Is encapsulated in Usage Criteria (Moderator) to reduce the model complexity.
Career Level	Keinänen et al. (2015); Moore et al. (2015).	Included	Is encapsulated in Usage Criteria (Moderator) to reduce the model complexity.
Social Media Business Usage *Two Dimensions: Inclination* and *Hesitation*	DeLone and McLean (2003); Hoffman and Fodor (2010); Michaelidou et al. (2011); Rodriguez et al. (2012); Schultz et al. (2012); Trainor et al. (2014).	Included	The antecedent of the B2B-Business Development process which has two dimensions.
Social Capital (Formation)	Adler and Kwon (2002); Van Deth (2003); Chiu et al. (2006); Baehr and Alex-Brown (2010); Rodriguez et al. (2012); Kline and Alex-Brown (2013); Li et al. (2013).	Included	Moderator Variable
Usage Criteria	Correa et al. (2010); Porter et al. (2012); Schultz et al. (2012); Bolton et al. (2013).	Included	Moderator Variable
Relationship Commitment, Trust, Self-Disclosure	Morgan and Hunt (1994); Blomqvist (1997); Suler (2004); Chiu et al. (2006); De Carolis and Saparito (2006); Doney et al. (2007); Seppänen et al. (2007); Mesch (2012); Van der Werff and Buckley (2014).	Excluded	Is encapsulated in *Social Capital* to reduce the model complexity (*Relational Dimension*).
Social Interaction ties	Granovetter (1983); Weimann (1983); Donath and Boyd (2004); Chiu et al. (2006).	Excluded	Is encapsulated in *Social Capital* to reduce the model complexity (*Structural Dimension*).
Shared Values (Vision, Language)	Chiu et al. (2006); De Carolis and Saparito (2006).	Excluded	Is encapsulated in *Social Capital* to reduce the model complexity (*Cognitive Dimension*).

Table 3.5 Dimensions of Business Performance

Dimensions of Business Performance	Supporting Literature	Included/ Excluded	Rationale
The pipeline of profitable active accounts/leads/ opportunities	Anderson and Oliver (1987); Powell et al. (2011); Rodriguez et al. (2012); Schultz et al. (2012); Schultz et al. (2013); Pöyry et al. (2017).	Included	An outcome-based quantitative measure of the B2B-Business Development process.
Outcome-based Sales performance	Palmatier et al. (2006); Rodriguez et al. (2012); (2014); Schultz et al. (2012); Stephen and Galak (2012); Itani et al. (2017).	Excluded	B2B-Business Development is not held liable whether Sales finally does close the generated and accepted opportunity or not.
Social Media Usage Technology Savviness	Ahearne et al. (2007); (2008); Shih (2009); Rodriguez et al. (2012); (2014); Bolton et al. (2013).	Excluded	The process-based qualitative measure is encapsulated in *Usage Criteria* to reduce the model complexity.
Benefits of Social Media Usage (Playfulness etc.)	Cheung and Lee (2008); Rauniar et al. (2014)	Excluded	The media-based qualitative measure is included *in Usage Criteria* to reduce the model complexity.
Return On Investment	Avlonitis and Panagopoulos (2010); Hoffman and Fodor (2010); Blanchard (2011); Powell et al. (2011); Gilfoil and Jobs (2012).	Included	The media-based quantitative long-term measure primarily depends on the closing rate by Sales but also on the quality of generated opportunities by BD.
Return On Relationships	Gummesson (2004); Grönroos and Helle (2012).	Excluded	The relationship-based quantitative long-term measure is encapsulated in *Social Capital* to reduce the model complexity.
Relationship Value	Grönroos (2000); Eggert et al. (2006); Grönroos (2011).	Excluded	The relationship-based composite measure is encapsulated in *Social Capital* to reduce the model complexity.
Relationship Quality/ Relationship Strength	Hennig-Thurau et al. (2002); Palmatier et al. (2006); (2008); Barry et al. (2008); Lages et al. (2008); Vieira et al. (2008); Khojastehpour and Johns (2014); Vieira et al. (2014).	Excluded	The relationship-based composite measure is encapsulated in *Social Capital* to reduce the model complexity.
Social Capital (Formation)	Van Deth (2003); Chiu et al. (2006); Baehr and Alex-Brown (2010); Rodriguez et al. (2012); Kline and Alex-Brown (2013); Li et al. (2013).	Included	The relationship-based composite measure is also used as Moderator Variable.

Table 3.6 Synopsis of the Hypotheses and Subhypotheses

#	Statement	Objective
H_1	Social Media Business Usage has a positive relationship with the B2B-Business Development process phase: *Identify and prospect potential buyers*.	• Contribution • Transfer of Context
H_2	Social Media Business Usage has a positive relationship with the B2B-Business Development process phase: *Share information and maintain knowledge*.	• Contribution • Transfer of Context
H_3	Social Media Business Usage has a positive relationship with the B2B-Business Development process phase: *Build social networks and manage existing relations*.	• Partial Replication • Transfer of Context
H_4	Social Media Business Usage has a positive relationship with the B2B-Business Development process phase: *Increase the number of leads and generate opportunities.*	• Partial Replication • Transfer of Context
$H_{5a} - H_{5d}$	Social Capital positively moderates the relationship between the Social Media Business Usage affected B2B-Business Development process and Business Performance.	• Contribution • Transfer of Theory • Redundancy (H_{5c})
$H_{6a} - H_{6d}$	Usage criteria positively moderate the relationship between the Social Media Business Usage affected B2B-Business Development process and Business Performance.	• Contribution • Transfer of Theory • Build upon Model (H_{6c})
$H_7 - H_8$	There is a positive relationship between the Social Media affected B2B-Business Development process phases 1; 2 and the B2B-Business Performance.	• Contribution • Transfer of Theory
$H_9 - H_{10}$	There is a positive relationship between the Social Media affected B2B-Business Development process phases 3; 4 and the B2B-Business Performance.	• Partial Replication • Transfer of Context
$H_{11a} - H_{11d}$	There is a positive relationship between the determinants of Information Quality/Satisfaction, System Quality/Satisfaction and Social Media Quality.	• Partial Replication • Transfer of Context
H_{12}	There is a positive relationship between Social Media Quality and the actual Inclination to Social Media Business Usage.	• Partial Contribution • Transfer of Context
$H_{13a} - H_{13g}$	There is mostly a positive relationship between Usage Criteria (Gender, Social Media Quality, etc.) and Usage Intensity. Exceptions: H_{13b} (Generation) and H_{13c} (Career Level) which have an assumed negative relationships.	• Partial Contribution • Transfer of Context
$H_{14a} - H_{14f}$	Dimensions like Social Interaction Ties, Trust, etc. have a positive impact on Social Capital.	• Partial Replication • Transfer of Context
$H_{15a} - H_{15b}$	Efficiency and Effectiveness Measures have a positive impact on Business Performance.	• Partial Contribution • Transfer of Context
$H_{16a} - H_{16e}$	Online Trust contributes (via) Relationship Commitment positively to Cooperation. This renders the B2B-Business Development process (individual phases and entire process cycle) more agile and might impact the Business Performance.	• Partial Contribution • Transfer of Context

4 Research Design and Methodologies

This chapter introduces the research design and methodologies to explore the major concepts, notably Social Media and B2B-Business Development and the philosophical considerations and critical objectives underpinning this thesis. The *research design* serves as a framework to combine the research question(s) and based on these, the literature review, the methodologies to collect and analyse the data and the final outcome (Thietart, 2001).

Starting with a discussion of general philosophical considerations, the relevant paradigms within the decision-making processes towards the author's adopted philosophical stance and justification for the mixed-methods approach will be investigated. Generally, qualitative research helps to develop the conceptual model while quantitative research ensures to refine this model and test the hypothesised relations between the model variables. Both methods go hand in hand to ensure that the results of this thesis are of relevance for the academic and business world. The chapter then describes the research process consisting of the selected research strategy, tactics and methodologies applied to the data collection and analysis.

4.1 Research Philosophy

With the supreme objective of this thesis in mind to add value to the academic and practitioner knowledge, the discussion on the philosophical standpoint becomes fundamental, since "every research tool or procedure is inextricably embedded in commitments to particular visions of the world and to know that world" (Hughes, 1990 cited by Remenyi et al, 1998,23). The research-baseline revolves around this objective by identifying unresolved business problems and deriving suitable research answers.

The thesis addresses the following philosophical questions in accordance with Remenyi et al. (1998,24-28):

- *Why* research? (The connection between Social Media usage and B2B-Business Development needs exploring to add to the broader understanding).
- *How* to research? (The research process involves learning about the methodologies, the subject and the group of persons this research calls for).
- *What* to research? (Streamline B2B-Business Development processes to improve the envisaged outcome, i.e. Business Performance).

Studying different philosophical viewpoints and applicable theories, the author realised that his background – influenced by Western European cultural values – primarily determined the choice of empirical and theoretical research methodologies which can be linked back to ontology, the researcher's "philosophical assumptions about the nature of reality" (Easterby-Smith, 2012,18) and epistemology, the researcher's views about the best ways of enquiring into the nature and grounds of knowledge concerning its constraints and validity (Remenyi

et al., 1998; Gray, 2009). *Research methodologies* are relevant to explore the specific research questions mentioned in Chapter 1.3 (Easterby-Smith, 2012).

The *research journey* led through different *stages of ontologies and epistemologies. Thereby, the dimensions of epistemological beliefs by Brennan and Voss (2016,2), i.e. the "certainty of knowledge; complexity of knowledge; source of knowledge; justification of knowledge" help to illustrate how the research project evolved from the initially *naïve* practitioner awareness level to a more *sophisticated* academic advocate level over time. Originally, the author tended to *realism* ontology related to robust positivist epistemology because of its resemblance to his spirituality assuming a 'single truth' with present facts that can be brought to light. In the context of this thesis, this approach is proving problematic due to the lack of capacity to gather complete and objective evidence and access this reality directly (Putnam, 1987; Easterby-Smith, 2012,19).

Similar considerations apply to the combination of *internal realism* ontology with positivist epistemology. Internal realism presumes that concepts like B2B-Business Development and Social Media represent real phenomena, observable independently of researchers, which have real consequences for practitioners in different industries (Easterby-Smith, 2012). At first glance, this implies that less recognisable aspects like a potential impact of Social Media in certain B2B-Business Development process phases on the final outcome might be erroneously excluded from the knowledge creation. Also, a coherent definition of B2B-Business Development is missing among practitioners and scholars, and Social Media encompasses a myriad of platforms. Consequently, both concepts might permit various viewpoints. Both the strength and weakness of positivism are revealed in the mere focus on quantitative methods. Though statistics allow for fast and target-oriented research, their meaningfulness to comprehend processes is limited (Easterby-Smith, 2012).

In contrast, relativist ontology linked with social constructivism/interpretivism epistemology seems more suitable to this research because of the assumption that there are various lots of truths, whereby the facts depend on specific viewpoints of researchers and practitioners. The idea behind social constructivism/interpretivism is that reality is not objective but created by individual experiences (Easterby-Smith, 2012). Saunders et al. (2011,116) refer to the underlying traditions "phenomenology and symbolic interactionism".

While phenomenology refers to the meaning that individuals give to their social environment, symbolic interactionism looks at the process of regularly interpreting and adjusting their actions to this context.

This is reflected in the fact that reviewing the academic literature and questioning experts reveal the difficulty to reach an agreement for example on a comprehensive definition of B2B-Business Development (processes). Thus, by focusing on particular B2B-Business Development/Sales practitioners in the software context, the researcher may better recognise their awareness towards activities which are critical to the B2B-Business Development process (Hussey and Hussey, 1997 cited by Bryant, 2011,46).

The author's specific definition of Social Media and B2B-Business Development process phases is derived from related definitions extracted from the literature review, supported by findings of the pilot study and BD job descriptions in the software industry. Additionally, these processes might be affected and redefined through engaging different media.

Table 4.1 displays the significant differences between *Positivism* and *Social Constructivism* to operate under a research philosophy reaching the overarching objectives of this study. Based on the literature review, this thesis suggests a combined approach which complies to a certain degree with both epistemologies.

Table 4.1 Contrasting Implications of Positivism and Social Constructivism

Criteria	Positivism	Social Constructivism/Interpretivism
The observer	must be independent	is part of what is being observed
Human interests	should be irrelevant	are the main drivers of science
Explanations	must demonstrate causality	aim to increase general understanding of the situation
Research progresses through	hypotheses and deductions	gathering rich data from which ideas are induced
Concepts	need to be defined so that they can be measured	should incorporate stakeholder perspectives
Unit of analyis	should be reduced to simplest term	may include the complexity of 'whole' situations
Generalisation through	statistical probability	theoretical abstraction
Sampling requires	large numbers selected randomly (quantitative)	small numbers of cases chosen for specific reasons (qualitative)

Source: Easterby-Smith (2012,24)

In the extant literature, B2B-Business Development taken in isolation tends towards social constructivism which involves case study research (Kind and Knyphausen-Aufseß, 2007). In contrast, research in Marketing/Sales and Social Media is mostly positivistic and operationalised by large-scale online surveys outlined in Table 4.2,107.

At the outset, *internal realism* and *relativism* ontologies linking to *positivism* and c*onstructionism* epistemology appear worth considering since this research covers several viewpoints. While *internal realism* suggests a quantitative design, relativism is geared to qualitative research. *Critical realism* ontology is noteworthy as *compromising* stance between strong *positivism* and *social constructionism* epistemology whereby its empirical (experiences), actual (activities) and real (cause-effect) areas resemble the *relativism*, *internal realism* and *critical realism* ontology (Bhaskar, 2008; Easterby-Smith, 2012).

To be exact, a relativist perspective refers to a somewhat favourable attitude of more tech-savvy B2B-Business Developers towards Social Media while the *internal realist* perspective implies that Social Media has become an indispensable part of daily B2B-Business Development routines.

As stated before, an *internal realist* view recognises *phenomena* (number of network connections) with the real outcome (accumulation of social capital, number of new business opportunities), whether there are notable business contributions in the short-term or none. *Critical realism* permits multi-disciplinary research with mixed methods and accommodates the nuances and vagaries of the 'social' part in Social Science.

Table 4.2 Surveys in Relationship Marketing/Sales and Social Media

Authors	Article	Cronbach's Alpha/Construct Reliability
Morgan and Hunt (1994)	The Commitment-Trust Theory of Relationship Marketing	Range of .871 – .947 for four variables/ Range of .868 – .949 for four variables (Composite Reliability)
Cannon and Perreault Jr. (1999)	Buyer-Seller Relationships in Business Markets	Range of .75 – .88 for six scales/ Not reported.
Davis and Sun (2006)	Business Development Capabilities Small in Information Technology SMEs in a Regional Economy	Range of .62 – .77 for three variables, .52 for one variable/ Not reported.
Paparoidamis and Guenzi (2009)	An empirical investigation into the impact of relationship selling and LMX on sales-people's behaviours and sales effectiveness	Range of .73 – .83 for five variables/ Range of .82 – .89 for five variables.
Rodriguez et al. (2012)	Social Media's Influence on B2B Sales Performance	Not reported/ Range of .74 – .88 for six variables.
Schultz et al. (2012)	Social media usage: an investigation of B2B salespeople	Not reported/ Range of .90 – .91 for three variables.
Rodriguez et al. (2014)	CRM/Social Media Technology: Impact on Customer Orientation Process and Organizational Sales Performance	Range of .815 – .911 for three constructs/ Range of .870 – .944 for three constructs (Composite Reliability)

Over time it becomes clear that the author's inclination to *post-positivism* appears more appropriate to underpin this research than adhering to rigorous positivism. This allows research that is broader in scope, aligning theory with practice and being fundamentally motivated by business objectives (Ryan, 2006,12-13). Moreover, taking such a stance seems justifiable since "developing numeric measures (…) and studying the behaviour [social media usage] of individuals [professionals] becomes paramount" (Creswell, 2014,7). Finally, such a viewpoint allows *flexibility* in defining the Business Development process and determining a relevant set of Social Media in the software environment.

4.2 Research Strategy and Tactics

The *research problem/questions* centre around the impact of Social Media usage on the B2B-Business Development process within the B2B-software context. This thesis is shaped by *post-positivism*, beginning with theory elaborated in the comprehensive literature review, collecting data in line with the proposed research model to confirm or disprove the hypotheses and undertaking revisions and additional testing (Creswell, 2014).

Since this is a more recent research area in need of further exploration, the pilot/pre-study aims to arrive at a final version of the theoretical research model presented in Chapter 3 to answer the underlying research questions introduced in Chapter 1.3.

The selected *research strategy* delivers "the overall direction of the research including the process by which the research is conducted" (Remenyi et al., 1998,44). In this respect, factors like the nature of the research questions, the acquired research skills, and the targeted completion time affected the author's choice of the research strategy to provide a clear direction with proper tactics.

Within the *context of B2B-research*, the study concentrates on interrelations between the core concepts and outcomes determined in Chapter 2. Thereby, executives of ERP/MES/Cloud vendors/third-parties and buyers in various regions serve as an analysis level. The research will test hypotheses concerning the correlation of both concepts and performance via structural equation modelling (Anderson and Gerbing, 1988; Blunch, 2008). Multiple linear regression analyses separately test the hypotheses and are complemented by structural equation modelling which allows analysing the entire model simultaneously. Further, research will be based on theory (Glaser and Strauss, 2009), draw from comparative analyses (Papacharissi, 2009), and empirical investigations in B2B-sales (Paparoidamis and Guenzi, 2009; Rodriguez et al., 2012), and transfer expertise to the B2B-Business Development and Social Media subject fields.

This study is conducted against the backdrop of the opportunities and risks global ERP/MES/Cloud software markets experience nowadays. The outlook for the global ERP software market is expected to reach 41.69 Billion USD by 2020 at a Compound Annual Growth Rate (CAGR) of 7.2% between 2014 and 2020 (Chaudhari and Ghone, 2015). Similarly, the outlook for the global MES software market remains optimistic with 12.6 Billion USD by 2020 at a CAGR of 10.85% between 2015 and 2020 (MarketsandMarkets, 2015).

Major challenges for the ERP market include high implementation cost and availability of open source applications. Additionally, MES markets suffer from the intensive competition of global players besides crowded markets of local vendors which tend to often offer various options at lower prices (Jacobson, 2012). The often significant investments associated with the launch of new MES systems further intensify the pressure on prices and margins. These challenges are similar to other B2B-software markets.

Thus, the fierce battle for prospective buyers in various industries requires *creativity* and *persistence* from Business Developers to generate opportunities along with customer-centric solutions and services presented by Sales.

To escape from this situation, Social Media might represent a necessary means. Processes might be changed and optimised, and B2B-Business Development professionals differentiate themselves by more efficiently interacting with prospective buyers as illustrated in Table 4.3.

Table 4.3 Social Media in B2B-Business Development

Category Application	Reference(s)	Definition	Business Development Purpose(s)	Usage Percentage
Social and Professional Networking Sites • LinkedIn • Facebook	Kaplan and Haenlein (2010); Kane et al. (2014); Katona and Sarvary (2014)	Users can exchange data with professional peers for bonding, career-related net-working and to join vendor-related groups.	• Social User Profile to differentiate professionals • Contact Search & Privacy • Dyadic Interaction (Social Relations, Relational ties) • Network Transparency	Total Category (65.9%) B2B-Usage (70.6%)
Blogs • Corporate Blogs • Expert Review	Cox et al. (2008); Singh et al. (2008); Chai and Kim (2010); Rollins et al. (2014)	Bloggers' personal websites to release journals on various topics which are arranged in reverse chronical order and can be commented on.	• Targeting/relevant information • Trust, Knowledge Sharing • Thought Leadership • Customer Feedback • Relationship Building • Competitive Intelligence • Overcome resistance of buyers to traditional media	Total Category (26.2%) B2B-Usage (31.5%)
Micro-blogs • Twitter	Barnes (2010); Kaplan and Haenlein (2011a)	Users can exchange relevant information items short messages, images, or video links.	• Generate value in Marketing processes • Pre-purchase: Research • Purchase: Communication • Post-purchase: Service	Total Category (26.2%) B2B-Usage (28.4%)

Source: Adapted from Moore et al. (2015) et aliter

This particular set of media might add considerable value to B2B-Business Development professionals by supporting the processes to become more agile and speedier in generating profitable opportunities.

The *research subject* emerged while establishing a new software business subsidiary in the DACH (Germany, Austria and Switzerland) region. The broadly defined role as B2B-Business Development Executive offered ideal conditions for questioning and rethinking existing processes (Apriso, 2011; Dassault Systems, 2017). It required specific research skills to communicate and realise the vision of engaging Social Media in the B2B-Business Development process.

To ensure the completion of the doctorate by its original schedule within the given budget and by adopting the approach by Rodriguez et al. (2012), a cross-sectional instead of a longitudinal study was chosen. Cross-sectional research "take[s] a snapshot of a situation in time" (Remenyi et al., 1998,47). This research choice aims to detect differences in the study population and gather data to verify the formulated hypotheses. Major drawbacks of cross-sectional studies are that changes in environment and situation over the course of time are disregarded and the "ability to make causal claims is limited" (Ellison, 2007,224). Overall, a cross-sectional approach with data gathered in a particular period seems preferable on the grounds of more efficient and resource-saving research.

Table 4.4 displays potential *research tactics* which are inferred from the chosen research strategy and seem suitable to tackle the research question(s) for exploratory and explanatory purposes (Creswell, 2014).

Table 4.4 Considered Research Tactics

Collect Evidence	Participants	Purpose	Strengths	Weaknesses
Semi-structured Interviews • Face-to-Face, Phone or Skype • Mainly interpretivist	• Small number of informants • Minimum of 12 senior managers of various functions, industries + regions	• Similar to focus group • Prepare large-scale survey instrument • Triangulation	• Improve interview technique • Fine-tune questions	• Small sample size • Difficult to replicate or generalise • Time intensive
Large-scale Survey online • Strictly positivistic with leeway for interpretation	• Larger sample of Social Media users e.g., LinkedIn, XING • Dyads of vendors and buyers	• Extensive use in business and management research • Effective data collection	• Quick and convenient • Collection of big data • More objective	• Inflexible • Artificial • Superficial evidence

Source: Adapted from Remenyi et al. (1998); Remenyi and Bannister (2012)

The study addresses the adoption and usage of Social Media by B2B-Business Developers in the Software industry. It aims to investigate how these professionals can leverage Social Media in different process phases to become more agile by relating more effectively to potential buyers, thereby closing more and better quality business in a shorter period. Applying an exploratory sequential research design allows to qualitatively explore the concepts identified in the literature with a small sample of key informants followed by quantitative research to determine if the qualitative findings might generalise to a large sample.

Therefore, the initial research phase entails the qualitative exploration of the theoretical core concepts by gathering data from senior executives mainly in the DACH and NA regions. The generated qualitative findings are used to develop assessment measures which can be administered to a large sample. The data in the quantitative research phase is obtained from executive employees of software vendors and buyers in different regions (Creswell, 2014).

Some of the major global and regional software providers earmarked for participating in the large-scale survey are listed below.

Table 4.5 Major B2B-Software Providers (Extract)

Company/Organization	Headquarters	MES	ERP
ABB Ltd.	Switzerland	x	
Activant (Epicor)	United States		x
Andea Solutions	Poland	x	
Apriso Corporation (Dassault Systèmes S.A.)	France	x	
Aspen Tech	United States	x	
Consona Corp.	United States		x
Emerson Electric Co.	United States	x	
Epicor Software Corp.	United States		x
Eyelit, Inc.	Canada	x	
General Electrics	United States	x	
Honeywell International, Inc.	United States	x	
IFS	United States		x
IBM Corp.	United States		x
Infor/Lawson	United States	x	x
Microsoft Corp.	United States		x
NetSuite Inc.	United States		x
Operator Systems ApS	Denmark	x	
Oracle Corp.	United States		x
QAD Inc.	United States		x
Rockwell Automation, Inc.	United States	x	
SAP AG	Germany	x	x
Sage Group plc	United Kingdom		x
Schneider Electric S.A.	France	x	
Camstar System (Siemens AG)	Germany	x	
Werum Software & Systems (Körber Group)	Germany	x	

Source: Adapted from Gartner (2012); Focus (2016)

4.3 Preparatory Phase (Pilot Study and Pre-Test)

The exploratory phase seeks "to see the research topic from the perspective of the interviewee [practitioner] and to understand how and why they come to have this particular perspective" (Cassell and Symon, 2004,11). It also aims at finalising the research model and designing, testing and refining the large-scale survey instruments for successful data collection, validity and reliability (Saunders et al., 2011).

During this phase, a pilot study was conducted to 'replicate the major study on a smaller scale' (Remenyi et al., 1998). This was to examine whether the concepts and preliminary research model based on the findings of the literature corresponded to the perceptions of practitioners.

The initially planned focus group to gather the qualitative data from senior executives was discontinued due to the reluctance of these experts to participate in focus group sessions and reveal internal best practices/policies in front of their peers. This change must be seen against the background of the substantial uncertainty with the acquisition of the author's previous US-based MES firm Apriso by the European-headquartered software company Dassault Systèmes in 2013.

4.3.1 Semi-structured Interviews (Pilot Study)

To remedy this problem, conducting semi-structured one-on-one interviews combined with a large-scale online survey offered a feasible way out. A significant justification is that such a procedure may "throw new perspectives on research questions, to increase the credibility of results, to demonstrate generalisability, and to provide deeper insights that explain why things take place" (Easterby-Smith, 2012,63).

Conducting semi-structured interviews fulfils a threefold purpose: Firstly, in line with the pilot study, to explore and confirm whether the proposed research question(s), theoretical conjectures and initial research model based on the literature review corresponded by and large with the practices, ideas and opinions of senior executives. Secondly, in preparation of the large-scale online survey, a recognised approach in business and management research, because of its convenience and practicability to obtain large amounts of quantitative data (Remenyi et al., 1998). Thirdly, through the combination of semi-structured interviews, BD job descriptions with the large-scale survey, triangulation will be ensured. This relates to different evidence collecting methods with offsetting or counteracting biases from the interviewees (Greene et al., 1989; Remenyi et al., 1998).

Semi-structured interviews in the form of face-to-face, phone or Skype interviews appear well-suited to explore in detail the experiences of practitioners with Social Media usage patterns in the course of the B2B-Business Development process. For example, this type of interview helps develop an understanding of the meanings senior executives attach to the identified core concepts (Tong et al., 2007).

Since B2B-Business Development is still a recent academic field encompassing various activities, it is critical to comprehend the research topic from the interest and view of various interviewees (King, 2004a) with a higher level of confidentiality from interviewees responding more personally even to sensitive topics (Easterby-Smith, 2012).

More importantly, semi-structured interviews provide the flexibility that even new "concepts and theories can emerge out of the data" (Bryman, 2012,13). This requires that the interviewer must care about the worldview of the interviewee (Saunders et al., 2011). Such an empathetic and unbiased atmosphere helps to build rapport and trust with the interviewees and stimulates sharing their story and life experiences (Qu and Dumay, 2011).

An *interview guide* was developed to conduct the semi-structured interviews efficiently. The interview guide incorporated a series of themes derived from the findings of the literature, on-the-job experiences and personal knowledge (King, 2004a). Its purpose was to provide a structure to simplify the information gathering in light of better comparability and accurate transcripts (Remenyi et al., 1998). It covered the major research areas and drills down from very general to specific questions. Thereby, the content and detail level are flexible and adaptable by probing and spontaneously taking up new topics while neglecting irrelevant ones (King, 2004a). In this context, it was critical to observe *reflexivity* (the author's impartial involvement which affects the research process and outcome) (King, 2004a) to consider different angles and to uphold the relationship with the interviewee (Kvale, 1996; Morgan and Symon, 2004); (Alvesson, 2003; Qu and Dumay, 2011).

For the pilot study, the researcher targeted a population of seventeen key informant executives from software companies, third-party marketing service providers and related recruitment agencies located in Germany, the UK and US. The objective was to explore how the interviewees perceived the research, interpreted the concepts and what purpose and significance they ascribed to their behaviour, attitudes and actions towards various media in their particular functional role and responsibility. It should be noted that the units of analysis in this research, i.e. small and medium-sized enterprises in particular industries and regions are only conditionally transferable to larger companies in a similar or different research setting.

With this in mind, the relevant target audience and the unit of analysis were defined.

- Professionals/Executives (Gatekeepers and Decision-Makers) mostly from the DACH, Western European and NA region

- A minimum of three years' experience in Business Development, Marketing or Sales in B2B-Software (Vendor/Buyer or a Third-party) with regional or global scope, serving various industries

- Interviews were held in the English language

Though initially, all executives had expressed their interest in the project, only twelve out of seventeen executives participated.

The remaining did not follow through due to time constraints or without giving particular reasons. The seventeen participants were recruited through previous corporate contacts and connections on LinkedIn/XING and contacted several times beforehand by phone, email and/or Social Media messages. Thereby, the main selection criterion was that all of the participants had extensive Business Development, Marketing and/or Sales experiences in the B2B-software environment to capture their attention. The continuous interaction helped to develop relationships and secure commitment to participate in the pilot study in Spring 2014. They received several emails with confidentiality, participant consent form, ethical guidelines and ethical approval form of the UoR, besides a brief description of the project. A follow-up email contained the interview schedule consisting of opening questions, a number of open, closed, direct or indirect, neutral or loaded questions about the fundamental concepts, and closing questions in which they could voice their opinion about overlooked but critical concepts. The idea to ask the participants to cover the interview schedule as far as possible and submit the results before the phone or Skype follow-up interviews served several purposes. Firstly, it verified their willingness to proceed with the research. Secondly, it provided a safe environment for the interviewees to share accurate knowledge/ information without the presence of the interviewer. This enabled them to answer open questions according to their understanding or viewpoint and even disclose sensitive information without the urge to impress or feeling influenced by the interviewer. Thirdly, it revealed their confusion with specific concepts like *Social Capital* and opened up new perspectives, like *performance measures*. Fourthly, it ensured written records in preparation for the transcripts to mitigate the risk of weak or failed recordings. Finally, it prepared the interviewees for the phone or Skype interviews and helped the interviewer to validate and gain additional information through probing questions and adjust the wording of specific questions where the language was unclear.

The phone or Skype sessions allowed the discussion of open and more complicated questions in greater detail. Also, the level of misunderstanding was kept to a minimum. This assured the necessary quality of the transcripts. The obtained results from the interviewees before the phone/Skype sessions were compared with the notes taken during the interviews. This ensured that the information was as accurate, relevant and complete as possible. Mind maps were applied to derive central themes by revisiting transcripts, notes and occurring ideas for each interviewee. They became part of the *individualised* thank you emails (Appendix A1) besides a brief research outline.

4.3.2 Thematic Analysis (Pilot Study)

The outcome of the semi-structured interviews was transcribed verbatim and analysed with Thematic Analysis, an inductive "method for identifying, analysing and reporting patterns (themes) within the data" being of interest for the researcher (Braun and Clarke, 2006,79; Joffe and Yardley, 2004). Thereby, the emerging themes become the categories for analysis according to the cut-and-sort method (Miles and Huberman, 1994; Fereday and Muir-Cochrane, 2006).

This method relates naturally to the person of the researcher who decides on the extracts of the transcripts, develops the themes for the categories and interprets the outcome. Moreover, the twelve transcripts were analysed by an independent reviewer *(90% intercoder reliability)* to ensure objectivity and reliability (Vaismoradi et al., 2013). The benefits of Thematic Analysis are that it can be quickly applied, summarises vital features and highlights similarities and differences across the transcripts, while generating unanticipated insights about the core concepts. This supported a parsimonious process with a focus on the critical research topics. Twelve interviewees from seventeen recruited participants ensured the achievement of theme saturation (Guest et al., 2006).

The outcome was reported following the checklist for explicit and comprehensive reporting of qualitative research suggested by Tong et al. (2007). This supported transparency, improved rigour, comprehensiveness and credibility of the semi-structured interviews. By disclosing the personal research interest, assumptions and findings the relationships with the interviewees were strengthened, and further evidence was provided. The generated themes of the Thematic Analysis were compared with the primary literature, reflected back to the interviewees and helped to redesign the research model (Chapter 3).

Some of the themes identified in the pilot study were

B2B-Business Development: The pilot study supported the scholarly view that a B2B-Business Development definition was missing among practitioners. Appendix A2 illustrates the four critical phases identified, whereby the blue coloured terms indicated the tendency of the majority of the interviewees. Appendices A3–A4 contains extracts from the thematic coding table, the mentioned frequencies and findings.

Social Media: Most of the interviewees (I) revealed in the questions (Q) that the core theme 'Social Media' was closely associated with the channel/platform 'LinkedIn'. This was expressed by statements such as LinkedIn *"being the leading social epicenter for B2B"* (I1;-Q17), *"the core part of our overall business model"* (I3;-Q16), *"active rolodex"* (I2;-Q15.2), *"mak[ing] B2B-Business Development more efficient by at least 25%"* (I8;-Q7) besides functionality *"I use it for 10 to 15% of the research"* (I4;-Q6), *"to locate new contacts"* (I11;-Q6), *"I leverage Social Media (LinkedIn and Twitter) as 50% of my daily routine"* (I2;-Q6). In contrast, other channels/platforms like microblogs were of limited importance *"I don't avoid Social Media at all … well except for Twitter – I need more space to express myself"* (I1;-Q14.4) or *"the company prohibits the use of Twitter"* (I4;-Q6).

Social Capital (Networking): Pivotal for Social Media is the *"ability to build my network"* (I10;-Q15.2), *"quality and size of network"* (I10;-Q16), to *"enlarge … network with new partners"* (I7;-Q2); *"enable for contacts and business opportunities"* (I5;-Q8). Only a minority of interviewees could neither define *"Social Capital"* nor associate the term correctly, *"communism"*, (I11;-Q16.1); *"fear of criminal use of my data"* (I12;-Q16.1).

Yet, the majority recognised its importance, *"overall social presence, positioning and tangible value a company achieves through its social strategy"* (I1;-Q16.1), *"strength of networks and relationships, an individual or organisation carries that they can leverage"* (I3;-Q16.1), *"information bank … the ever-growing potential for increased contact identification"* (I4;-Q16.1), *"reputation of a company"* (I5;-Q16.1).

The following statements in open-ended questions led to the inclusion of *Business Performance* in the research model (Chapter 3). A **Chief Marketing Officer** of a leading Boston-based research and consulting firm pointed out the importance to *"benchmark respondent's success with using LinkedIn in this way, or lack thereof, and compare it to their recent business outcome and relate the use of Social Media to some form of performance, i.e. financial, operational (customers), organisational (people), or efficiency (time/cost savings) to prove out the hypotheses with more rigour and objectivity".* Then, a **Vice President of Business Development** of a global marketing and advertising firm with headquarters in New York highlighted the Business Development/Sales contribution of Social Media that he *"could not live without it …"*. In contrast, a **Senior Consultant** of a London-based staffing and recruiting firm (third-party) who commented that *"though this was a fascinating area of study, traditional media and communication would never be replaced and the strength of a face-to-face meeting would always outweigh any new media".* Finally, a **Senior Partner Manager** of an energy-efficiency solution company based in Frankfurt observed that *"B2B/cold calling was dead; the latest thing to build relationships was Social Media/H2H".*

Overall, the outcome of literature review and pilot study laid the foundation for the development of the initial questionnaire for the large-scale survey.

4.3.3 Updated Research Model and Draft of Provisional Questionnaire

Based on the outcome of the pilot study, the initial research model which considered Social Media as the independent variable and the B2B-Business Development process as the dependent variable was fundamentally redesigned. Practitioners, as well as supervisors of the project, stressed the fact that Social Media acted instead as an antecedent which might affect various process phases (independent variable) the way that Business Performance as an outcome variable might be influenced (Chapter 3). This configuration departed from a similar research setting in which Social Media impacted Sales (Rodriguez et al., 2012). The sequence of the B2B-Business Development process phases derived from the literature review were broadly consistent with the process phases practitioners mentioned when they were asked to think of the most four most essential phases/activities of their B2B-Business Development process. However, there were some discrepancies, which can be explained by professionals of different functions and the business model of third-parties (Appendix A2).

The draft of the provisional questionnaire adapted existing instruments from previous studies (Netemeyer et al., 2003; Hunter and Perreault Jr, 2006). The initial pool of items originated from internationally recognised scientific publications was discussed with senior executives of B2B-Business Development, Marketing, and Sales in Skype interview sessions.

Additional scales were developed where appropriate (DeVellis, 2016). Some scales were refined or streamlined to the extent to which the identified concepts were applied and based on the previous semi-structured interviews and the pre-test. Chapter 3 covered the conceptualised constructs in Tables 3.1,96 and 3.2,99 – 3.4,101.

For example, for the conceptualisation of the construct 'Social Media Business Usage', a composite scale was developed drawing on prior studies, e.g. from Schultz et al. (2012) and Keinänen et al. (2015). While Schultz et al. (2012) justify their one item construct for Social Media Business Usage with the unavailability of previous measures arguing that Social Media was associated with a relatively limited scope of platforms (e.g. LinkedIn, Twitter, and Blogs) this research operationalises Social Media Business Usage with six items on a seven-point Likert scale. Following the suggestions by Rodriguez et al. (2012) and Keinänen et al. (2015) Social Media Usage in this context focuses on more than just the sales function and considers the potential impact on processes and performance. Moreover, the construct was distinguished according to business purposes. To establish a more differentiated perspective the two dimensions of Social Media Business Usage, *Inclination/Intensity* and *Hesitation* were studied.

Likewise, the scales for *Social Media Business Usage* within the different B2B-Business Development process phases were partially adopted from the literature or self-developed taking into account practitioner viewpoints. To reduce the complexity of the provisional questionnaire, the number of items in the final questionnaire was drastically reduced, e.g. for each Business Development process phase to seven statements.

The measurements for *Social Capital* and *Usage Criteria* were derived from Schultz et al. (2012); Bolton et al. (2013) and Kline and Alex-Brown (2013) while the instruments to measure *Business Performance* followed suggestions made by Gilfoil and Jobs (2012); Schultz et al. (2012) and Li et al. (2013).

Though borrowed from the literature the wording of the measurements was occasionally adjusted to ensure proper fit with the specific research context. For the measurements, a seven-point Likert scale was applied. Thereby, the dimensions 1 = strongly disagree to 7 = strongly agree were switched (7 = strongly agree to 1 = strongly disagree) from one process phase to another and occasionally between the different sections of the questionnaire to ensure that the participants paid attention to the questions instead of responding the same way as before. Also, it prevented respondents from suffering a lack of concentration due to survey fatigue.

The purpose of the questionnaire design was to prepare for the online survey which satisfied the interdisciplinary demands and expectations of academics and practitioners with the ulterior motives of ensuring a high response rate (Ilieva et al., 2002; Nulty, 2008).

The Appendices D1–D15 contain a detailed list of the original measures/scales and the derived items/statements.

The initial idea to develop the questionnaire in both the English and German language was discarded at a later research stage, particularly upon the advice of practitioners that a translation into German did not seem very useful or add particular value. Amongst the reasons for developing the questionnaire exclusively in the English language was the fact that decision-makers and professionals of B2B-software vendors and buyers usually have quite a diversified background coming from numerous countries and sites. Also, marketing campaigns are increasingly launched in an international team setting. Finally, the use of anglicisms is widespread in the consulting and software industry. For example, the term 'Social Media' is commonly used while the German translation 'Soziale Medien' appears outdated. This is also evident from the fact that a google.de search of ‚Soziale Medien und B2B-Geschäftsentwicklung' only yielded nine results. Generally speaking, the words 'B2B-Business Developer' or 'B2B-Business Development' are nowadays established terms and frequently used in German job descriptions, whereas the translations 'Geschäftsentwickler' or 'Geschäftsentwicklung' are rarely used since they appear dowdy and obsolete. Similarly, the English translations for performance measures, e.g., KPI and ROI have become standard replacing increasingly corresponding German terms. Thus, the potential methodological contribution (translation from English to German) would be comparatively marginal.

4.3.4 Preparations for the Pre-Test

The pilot study served the purpose of providing qualitative evidence about relevant concepts within the scope of the research topic and to adjust the research model. In contrast, the pre-test seeks to provide information regarding the adequacy of the provisional questionnaire.

While the pilot study relied on conducting semi-structured interviews, the pre-test used *cognitive interviewing*. This method allowed either 'think-aloud' or probing. The 'think-aloud' interview put the respondents in charge allowing to share their viewpoints on content, wording or other topics, while the interviewer dominated in the probing. Though think-aloud is recommendable in self-completion questionnaires, additional probing can render the interview more effective. The interviews were conducted in English and recorded in Skype sessions conducted in January 2017.

The pre-test ensured that the questionnaire provided valid and reliable measures of the constructs and attributes of interest (Collins, 2003; Blair et al., 2013). A series of individual interviews have been chosen in preference to a focus group for similar reasons as those given in the pilot study. Moreover, it did not seem feasible to interview a group of Business Development, Marketing and Sales executives because of the partially conflicting interests among these functions and for time reasons.

Conducting individual interviews promised to focus on one professional (Executive), function (Business Development) and industry (Software Vendor) at a given time. This ensured that the question concept/design and the tasks were understood consistently and interpreted as intended by the researcher.

Thereby, questions which were misunderstood, resisted or unable to be answered were flagged. This helped to redesign the questions by either changing the wording for better comprehension or eliminating the problematic ones.

During the pre-test, when for example a question or item was challenged by at least two respondents through similar feedbacks, the question was adjusted. The primary purpose of the pre-test consisted of regularly improving the provisional questionnaire. This is in line with Blair et al. (2013) to optimise the design and implementation of the final survey in terms of data coding and analysis plans to increase the response rates and data quality. For this research, the pre-test was reasonable to warrant that the respondents stayed motivated, completed and submitted the survey within the projected timeframe. Also, the pre-test served to confine the instruments and scales essential to the research and to examine whether they could be transferred from a different context (e.g. region, industry and function) to the research specific context. Then, the pre-test helped to recognise whether previously used and self-developed instruments were appropriate and contemporary. Another purpose of the pre-test to collect data for statistical analyses like testing the reliability of scales through Cronbach Alpha was neglected since the measures were often very similar to those identified in the literature. Overall, the pre-test ensured that the final survey focuses strictly on the fundamental concepts.

The provisional questionnaire was pre-tested with a smaller sample including respondents of different generations across various functions (Business Development, IT), industries (Software, Consulting, Technology), and regions similar to those of the target population (Appendix B). This allowed monitoring whether the questions were relevant, clearly worded, and unambiguous (Hair Jr. et al., 2011). The respondents were sourced mostly from Social Media (LinkedIn and XING), previous and current business contacts. The data gathered consisted of the responses itself with some room for a variety of emotions and opinions.

4.3.4.1 Drafting the Provisional Questionnaire

The process/project plan of developing the components in preparation for the provisional questionnaire containing the instruments to measure the constructs of the research model is illustrated in Appendix A1. The pre-test interviews revealed that the questionnaire was too complicated and that some scales were perceived as redundant or did not belong to the central research issues. This suggested condensing the scales to reduce redundancy and simplify the questionnaire to the essential elements (Rattray and Jones, 2007).

4.3.4.2 Analysing the Outcome of the Pre-test

For the pre-test, only those executives were recruited who seemed suitable to answer the research questions. The selection criteria of the sample for the pre-test included characteristics similar to the targeted circle of participants for the online survey about the regions, industry verticals, business functions and career levels.

As stated before, the pre-test optimised the questionnaire for the large-scale online survey. Sixteen key informants of various functions and industries related to the software environment were contacted by email, phone and via Social Media several times in QIV 2016 to determine their willingness to participate in the pre-test in January 2017. Moreover, the number of responses allowed for potential statistical analyses of the pre-test data. However, the participant/interviewee rate fell a little short of expectations. A 62.5% (10 out of 16) participant rate indicated survey fatigue. Another adverse factor was the complexity, and length, especially in times where professionals are flooded with surveys. Generally, it took far longer to complete the survey than the expected 15-20 minutes (Merolli et al., 2015). The original idea was to gather data for the thesis and a future research paper. However, the pre-test interviews via Skype took from about 1.5 hours to 3 hours and some of the respondents became impatient and frustrated.

Appendix B contains, besides socio-demographic background information, the following comments reflecting the mixed attitude (some dismissive, some appreciative) of the executive respondents to complete the provisional questionnaire.

- *"I felt a little being taken advantage of referring to the time it took to complete. Changing the direction of the scales was annoying."* Executive Team Coordinator, Software

- *"It reminded me of Myers-Briggs. Though the questionnaire is well-designed, the second part is quite exhaustive."* Operations Manager, Executive Education

- *"I completed the survey because I granted you a favour. However, the length could seriously jeopardise the veracity of the responses due to fatigue."* Sales Director, Recruiter

- *"I enjoyed the dynamic design of the survey with its changing Likert scales. The second section adds considerably to the length. This might present a challenge for respondents who are less familiar with the doctoral research."* Market Development Manager, IT

- *"The questions were enlightened. This research is a 'gold mine', and I would be interested in distributing it within my corporation."* Senior Sales Account Manager, High Tech

To ensure that future respondents would complete it, the questionnaire was progressively revised and simplified after each interview. 60% of the pre-test respondents stated they would participate in the survey of this format again. Additionally, two respondents agreed to participate if the revised survey was drastically reduced and well below 30 minutes, while the remaining two respondents declined to retake the survey but changed later on their mind and participated in the online survey. Overall, three out of the ten respondents perceived a substantial value for their companies. The respondents' fading willingness usually began after the second section of the provisional questionnaire exclusive the title and instructions page. The number, length, and wording of the scale items in Question Q2 regarding the *Business Development process phases* were described by the respondents as 'very intense'. Only a few terms were difficult to comprehend for the majority, e.g., 'rolodex' and 'outdated database'. As expected, respondents with a slightly reserved attitude towards Social Media Business Usage were sometimes not willing to answer Social Media related question thoroughly.

Consequently, the statements which caused confusion were rephrased, shortened or abandoned. The original scale for the statements to Social Media Business Usage in Question Q1g was challenged by several respondents. While the wording of the items seemed clear, some criticised the tendency scale (Strongly Disagree – Strongly Agree) as 'improper' and suggested to change it to a time-related scale (Never – Daily). Furthermore, the original five-point Likert Scale of the antecedent was changed to a seven-point to provide a differentiation on a more granular level.

The response to Question Q2e '*What specific Social Media platform do you consider the best for each of the four Business Development process phases?*' remained misunderstood by most of the ten participants even after adding specific instructions. The original idea behind this question was to identify the platform most suitable for a particular process phase. The respondents did not comprehend that each business development process phase should reflect one specific platform without reusing it. The question was re-worded to ensure correct answers. Thus, in the final version, one platform could be assigned to more than one process phase.

The original Questions Q3b1/b2 for Social Networking Sites which evaluated the features and applications of Facebook/LinkedIn 'are (not) delightful, exciting (dull), etc.' were omitted due to the need for additional explanation and difficulties of comprehension of this scale among most respondents. Since 'perceived playfulness' was of subordinate importance for this research, it was substituted by a single statement as part of Question Q5g '*How would you describe your Social Media Affinity?*'

The small number of ten respondents suggested refraining from statistical analyses though intended initially. Besides the fact that this number would not provide meaningful statistics, the reliability of the scales had been identified mainly in the underlying literature (see Table 4.2,107).

A common-sense analysis was deemed sufficient to ensure the *face validity* of the provisional questionnaire and to avoid a repeated pre-test. Ultimately, all ten pre-test participants agreed to complete the finalised questionnaire to ensure data compatibility.

4.3.4.3 Developing the Final Questionnaire

Appendices C1–C4 contain the finalised questionnaire with a reduced number of statements and exclusion of questions of the provisional questionnaire. The final version took about 20–25 minutes to complete.

To prevent an overly complicated and detailed questionnaire resulting in a relatively low response rate, the initially planned inclusion of constructs on the periphery of the central research areas was abandoned (e.g. Perceived Playfulness). Also, the elimination of redundant or secondary items helped to streamline the questionnaire to a manageable length.

The following changes were made. Firstly, the instructions were simplified by guiding the three groups, Vendors, Third-Parties and Buyers, more clearly through the survey.

Upon the suggestion of the US and Eastern European participants certain abbreviations or expressions were replaced (e.g. SM by SocMed) to avoid confusion with ambiguous connotations out of context. Specific categories like the values of annual sales were condensed to avoid too much complexity leading to fatigue, frustration and unwillingness to complete the survey. As a result of the pre-test, terms like 'rolodex' or 'outdated database' were specified ('rotating business card holder' or 'Hoovers') to improve clarity.

After embedding the pre-test changes into the questionnaire, it was discussed with several research colleagues. This feedback led to the disregard and taking into account of further items into the finalised questionnaire.

The scale expressing the antecedent 'Inclination towards Social Media Business Usage' (Question Q1g) was drastically reduced from twenty-one to six items to reduce redundancy. The 'Social Media Use' scale by Keinänen et al. (2015) was streamlined by focussing on the platforms used *primarily for business*. Several respondents noticed problems in answering this question since they also intensively harnessed Social Media for personal reasons. Thus, in the re-wording, the *business focus* was emphasised.

Moreover, previously separate items in Question Q1g 'blogs and microblogs' were consolidated to one item to reduce complexity. Similarly, the number of the items of the construct 'Hesitation towards Social Media Usage' (Question Q1h) excluded items on 'technostress' (D'Arcy et al., 2014). Instead, this concept was covered by two statements in Question Q5g 'Social Media Affinity' (Tech-savvy Attitude) to reduce complexity.

Also, the 'opportunity scale' in the 4th Business Development process phase (Question Q2d) borrowed from Rodriguez et al. (2012) which contained very sales specific items, e.g. 'value proposition' was revised to primarily Business Development specific activities, e.g. 'Social Media helps our Business Development team to identify potential leads and opportunities ...'

Since some dimensions of the concept 'Relationship Quality' like 'trust and commitment' Vieira et al. (2008) were covered by Question Q2c the number of these statements was substantially reduced in Q3d. Since 'Relationship Quality' is generally assumed in B2B-Business Development, Marketing, and Sales this concept was not perceived as critical among the respondents of different industries. This particular construct appeared rather theoretical than practice relevant, and the scale was subordinated. Thus, this concept was streamlined and merged with 'Social Capital'.

The composite scales for 'Social Capital' in Question Q3a and 'Usage Criteria' in Question Q3b were reduced since some of the items were regarded as redundant. Other scales, e.g. 'Social Media Quality' consisting of 'Information Quality' and 'System Quality' were ultimately abandoned for parsimonious reasons.

4.4 Extensive Online Survey

The Qualtrics based survey conducted via web-browser and mobile app was announced several times from January to March 2017, primarily through postings on LinkedIn and XING, and conducted in April 2017. It was also executed by e-mail. The original idea to consider a mailer was discarded for several reasons.

Firstly, online surveys are very efficient in collecting data (Sax et al., 2003). Secondly, e-mail surveys cut the response time in half (Ilieva et al., 2002). With a link to the *Qualtrics* portal, they allow anonymity, ensuring higher response rates (Hair Jr. et al., 2011). Thirdly, technology-savvy younger executives are more accustomed to them (Baruch and Holtom, 2008). Finally, the immediate appearance of a multipage mail survey might be perceived as too burdensome leading to a higher non-response bias (Blair et al., 2013).

4.4.1 Strategy and Sampling Process

The strategy was to test the hypotheses revisited in the next chapter concerning the relationships among Social Media, Business Development process and Performance on data gathered through LinkedIn/XING contacts in a nomological network utilising Structural Equation Modelling techniques. The following procedures were followed to ensure a representative sample (Hair Jr. et al., 2011).

Defining the Target Community: 100 leading global B2B-ERP (Focus, 2016; PwC, 2016), 20 MES (Gartner, 2012) software companies and the author's 82 Social Media online groups with access to around 7,3 million B2B-Business Development, Marketing, Sales and other executive connections were considered. In November 2016, individualised emails were sent to approximately 120 software vendors, and various postings were placed via online groups to raise awareness and recruit participants for the large-scale survey planned for spring 2017. Unfortunately, only very few individual contacts signalled interest in participating in the pre-test in January 2017. Due to this lack of corporate support, the intended initially dyadic sampling with one particular vendor company and their key clients was abandoned.

Another option was to apply a search algorithm to identify the approximate number of professionals of interest on both vendor and buyer side on LinkedIn. Thereby, the focus was on medium-sized and large globally operating software companies because of the need for relatively large-sized communities representing the professionals of interest (Appendix E).

The following search criteria were applied in combination:

• Name of the company,
• Business-to-Business (B2B),
• Vendor Functions (e.g. Director/VP of Business Development, Marketing, Sales, CMO), or
• Buyer Functions (e.g. Buyer, IT Manager/CIO, Plant Manager/VP of Manufacturing, CFO)

The determined size of the B2B-software vendor community contained approximately 96,000 professionals of interest (Sampling Unit) across the regions while the one for buyers contained roughly 4,800.

The potential advantage of the approach consisted of a simplified way to derive a rough size of the community by targeting primarily the companies representing more substantial numbers of B2B-professionals on LinkedIn/XING. This approach was critical and discarded for the following reasons:

- The number of professionals is changing rapidly as the number of LinkedIn subscribers continuously grows.
- Professionals often hold multiple functions, for example, marketing and sales distorting the number which implies doublets or triplets.
- Whether the searched function relates to the current, a previous career or is the target group of the professional remains vague.

Ultimately, the approach depicted below was found to be suitable to gather a sufficient amount of data with reduced error potential in April/May 2017.

Table 4.6 Final Distribution Approach

Distribution Approach	Networking Activities by Social Media (Facebook, LinkedIn, XING) and Corporate Email	Adjusted Audience (Adj. Aud.)	Started Surveys (1)	Completed Surveys (2)	Response Rate (3) = (2)/(1)
Anonymous Link	Postings on 82 LinkedIn/XING online groups with a potential of 7,363,615 connections.	N/A	N/A	112*	N/A
	Postings on two Facebook accounts: 121 own and 846 contacts from the author's wife resulted in the potential of 967 connections.				
	Distribution via multiplicators at JBT AeroTech, Microsoft, LinkedIn, SAP, etc.: eight own and four corporate contacts from the author's wife.				
	Distribution via multiplicators at e-fellows.net, Henley Alumni, and two supporting contacts.				
	Sharing of the link by 1st or 2nd-degree contacts on LinkedIn by five supporting contacts.				
	Posting updates via the blog, messages on LinkedIn, XING, Twitter, etc. on a daily basis.				
Emails via Qualtrics	Submitting (reminder) messages to 8,775 contacts on LinkedIn, i.e. 7,550 own and 1,225 contacts from my wife minus 201 bounced emails equalled the 'adjusted audience'.	8,574	899 10.49% Adj. Aud.	396 4.62% Adj. Aud.	44.05%
	Submitting (reminder) messages to 928 own contacts on XING minus 24 bounced emails equalled the 'adjusted audience'.	904	82 9.07% Adj. Aud.	35 3.87% Adj. Aud.	42.68%
Σ of Emails	LinkedIn and XING contacts generated 9,703 minus 225 bounced emails equalled the 'adjusted audience'.	9,478	981 10.35% Adj. Aud.	431* 4.55% Adj. Aud.	43.93%

Completion	Origin of Respondents	Frequency	(Valid) Percent	Cumulative Percent
N = 543*	Anonymous Link	112	20.6%	20.6%
	LinkedIn Contacts	396	72.9%	93.5%
	XING Contacts	35	6.5%	100.0%
	Total	543	100.0%	

On 3 April 2017, individualised emails with the survey link were sent via Qualtrics to 8,775 LinkedIn, and 928 XING connections and a system-generated anonymous link were posted on Facebook and in various large-sized LinkedIn/XING online groups, e.g. *B2B-Business Development.* In addition, a YouTube video, blog and the progress of the survey were daily published on Facebook, LinkedIn and XING. The incentive (21 prizes) was also mentioned.

The idea of engaging the audience through regular updates, thank you notes, and reminder emails was to promote a fast-track survey distribution resulting in an above-average response rate (Appendices F2–F4). The importance of follow-up activities and incentives for online surveys is mentioned by Don (2000); Deutskens et al. (2004).

Choosing the Sampling Frame: The sample was drawn on the basis of the research relevant community which was identified as accurate as possible based on various industries. The sample was unflawed by being compiled from different sources entirely free from overlaps since the upload of email addresses in Qualtrics allowed duplicate entries to be removed efficiently. For the sampling first, second degree and group connections on LinkedIn and XING were considered. Moreover, the survey link was distributed from a few executives who recognised the value of the research within their organisations (Keinänen et al., 2015).

Selecting the Sampling Method: The convenience, a non-probability sampling method was selected since the sampling is based on judgment and referrals which allows completing a larger survey resource-efficiently with Social Media connections (Rose et al., 2014). Though the initial respondents, i.e. professionals of leading companies were identified by using probability methods to forward the survey to other professionals through referrals, there was also some bias involved to reach the required sample size. By targeting executives critical to the research, the author's judgment ensured a credible, efficient and reasonable representative sample.

Determining the Sample Size: Drawing an appropriate sample size was critical to yield reliable results in terms of accuracy and consistency. For the applied statistical analyses, the size of the samples had to comply with various rules of thumbs, e.g., n ≥ 30 or n ≥ 100 respondents per group. Based on the degree of confidence, the amount of acceptable error and the amount of variability (population homogeneity) the sample size could be calculated without even knowing the exact size of the relevant community. Thereby, a sample size of 500 respondents seemed feasible in case of communities of 100,000 or millions (Hair Jr. et al., 2011). While Ilieva et al. (2002) observed response rates of 19% to 30% for online surveys, a research-related study by Rodriguez et al. (2014) demonstrated a lower value of 11.2%. To determine how many participants had to respond to estimate the mean score of a 7-point Likert scale with 5% accuracy and 95% confidence, a sample size of n = 225 participants was deemed necessary (Remenyi et al., 1998). A correction factor of the ratio sample size/community was disregarded because of the relatively small sample size.

In total, 543 surveys were completed. This number included four (*ten*) traceable participants of the pilot (*pre-test*). 112 out of 543 responses originated from the anonymous links.

The invite by email to the adjusted audience size of *9,478* (9,703 minus 225 bounced emails) Social Media LinkedIn and XING users showed that from *981* (10.35%) started surveys, *431 (4.55%)* were finished. The *overall* response rate of *4.55%* (<u>without</u> the anonymous links) appears modest and may be attributable to the fact that currently an excessively high level of survey requests is posted on Social Media.

Achieving a sufficient sample size is particularly important to apply Structural Equation Modelling (SEM). Based on factor analytical and multiple regressional techniques, the SEM examines the structure of interrelationships expressed in various equations between the constructs of the research model. Moreover, it tests the overall fit of the model to the measured data and compares alternative models (Hair Jr et al., 2009; Pallant, 2013). Sample size guidelines based on the complexity of the research model (number of paths) and characteristics of the underlying measurement model ensure robust or replicable solutions. For example, a minimum sample size of n = 150 is suggested for a model with up to seven constructs, modest communalities (.50) and no under-identified constructs. The minimum sample size increases to n = 300 when the model involves lower communalities (< .45) and/or various under-identified constructs (≤ three items). For models with a more substantial number of constructs a sample size of n = 500 is recommended (Hair Jr et al., 2009,662).

Applying the 'sample-size-to-parameters ratio' ensures reliable results (Jackson, 2003; Kline, 2015b,16). Thereby, the recommendable ratio of 20:1 results in a sample size of n = 240 for the research model with about 12 major paths, while a less than ideal ratio of 10:1 requires a minimum sample size of n = 120.

Generally, a survey size of approximately 500 submitted datasets seemed preferable. To anticipate challenges and risks with calculating the sample size via LinkedIn/XING, a 'safety buffer' was considered. The outcome of 543 completed surveys met this expectation.

Notably, the B2B-software contacts included more vendors and third-parties than buyers. One reason was that the search algorithm did not clearly differentiate between buyer and vendor profiles. Sometimes, vendors targeting software buyers were mistaken for buyers. Moreover, the Social Media search algorithm did not segregate between current and previous career level on the identified profiles. Also, the search in the form of a 'snapshot' could not provide information about the usage intensity. Considerations like these, as well as, possibly incompleted surveys led to the decision to initially target a sample of about 4,600 participants (12% would lead to about 550 data sets) and to branch out the Qualtrics survey into a vendor, third-party and buyer section, i.e. a three sample structure.

Implementing the Sampling Plan: From the major social platforms, LinkedIn, XING and Facebook, only the first two were considered for the purpose of sampling since the search for B2B-software contacts on Facebook remained without any major business results. The survey was regularly announced through various social platforms to first and second degree connections and contacts on virtual groups to ensure a sufficient sample size at the time of

the survey in April/May 2017. As stated before, redundancies were eliminated, by including participants with profiles on several social media only once in the sampling.

4.4.2 Conducting the Survey

Announcement: To build awareness and ensure high response rates, the forthcoming survey event was regularly broadcasted during the winter months 2016/2017 on various Social Media channels. On 3 April 2017 personalised messages (Appendices F1–F2) with the survey link were sent via Qualtrics to a list of email contacts generated by a sample of LinkedIn/XING users and previous and current company contacts. Besides the research purpose, these messages included a response deadline, sponsorship and confidentiality statement; incentives (Appendix F3) consisting of an executive summary and a raffle contest (Hair Jr. et al., 2011). The survey link was submitted to 9,703 Social Media contacts (225 emails bounced) with a 45-day expiration. Reminder messages were triggered in decreasing intervals of seven to one days (Appendix F3). Instead of recording the date of survey completion for an early/late respondent analysis Deutskens et al. (2004) the duration to complete the survey was applied. The reason was that the audience was continuously engaged via Social Media.

Survey Response Rate: Data was collected using an email link to the online survey supported by three reminder/thank you emails. From 981 email recipients who started the survey, 431 completed the survey within the within the 45-day window until the expiration day. Invalid responses were omitted by using enforced answers within the questionnaire. The unusual high *completion* response rate of 43.93% of the surveys started (only via email) might have resulted from the awareness building and the ongoing engagement of the audience through regular postings on Social Media in the preceding months. On the other hand, the length of the questionnaire and received emails like 'I did not start the survey for fear of spam', 'This [Qualtrics] link appears to be spam' (Evans and Mathur, 2005) or 'I am no longer in the B2B-software field' impacted this *completion* response rate. In addition, 112 anonymous participants completed the survey. Yet, it was *not* trackable how many participants had clicked on the anonymous link. The survey yielded an *overall* response rate of 4.55% (<u>without</u> the 112 anonymous responses), clearly below the 11% – 13% level of related studies (Rodriguez et al., 2014; Keinänen et al., 2015).

To measure whether the incentive in the form of the executive summary and raffle of a complimentary seminar and 20 gift cards affected the response rate, a partial study was executed for the LinkedIn, XING and anonymous email contacts. A detailed description is found in Appendices G16–G17. The expectation that this incentive might boost the response rate was, however, not confirmed for both social media and anonymous contacts since the improvement of the response rate was not statistically significant ($p = .503$). Likewise, the response rate for the *DACH* region separately showed no statistical significance ($p = .235$) though it was anticipated that besides the executive summary the high-priced reflection seminar offered complimentary only at the Munich location might have an inducing effect.

4.5 Methods of Quantitative Data Analysis

While the methods are provided in this section, the results of the quantitative data analysis will be presented in Chapter 5. SPSS Statistics v23 was applied for fundamental statistical analyses to examine the reliability and validity of scales and measures. To test the research model and hypotheses, AMOS v23 Structural Equation Modelling was carried out.

Split-sampling was facilitated through a larger sample size to tailor the survey to various groups, e.g., software vendors, third-parties and buyers and to analyse the behaviour of different professional or generational groups, e.g., occasional versus frequent users of Social Media with the purpose to discover new perspectives.

4.5.1 Preparing the Data

Data Preparation: After the data collection, a thorough screening, cleansing and refinement process was initiated in preparation for the analyses. Critical activities involved testing for non-response bias, missing data, normality, reliability (consistency) and validity (accuracy) (Hair Jr. et al., 2011).

Non-Response Bias: The data was examined for non-response bias. Since the research progress was continuously communicated through blog updates and online postings the *duration* rather than the submission date was assumed. Following Armstrong and Overton (1977)'s split into early and late submissions this research analysed the duration of survey completion in hours and days. Initially, seven groups were identified from immediate to very late responders. Ultimately three groups of respondents could be differentiated over the course of four weeks. The majority, *early* respondents (94.3%) completed the survey within seven days while the minority including *average* respondents (2.6%) required up to 14 days and *late* respondents (3.1%) up to 28 days to submit.

Missing Data: Since the validity of findings is at stake; the missing data is minimised and resolved as far as even possible by redesigning and simplifying the final questionnaire. This meant that confusing or difficult questions identified in the pre-test were eliminated. Moreover, controls were built-in to avoid invalid data, i.e. respondents guessed or answered randomly to move forward (Hair Jr. et al., 2011). Instead of revealing the entire questionnaire, the Qualtrics forced answer validation feature was chosen to progress. This ensured completion with nearly no missing values. In one case where the 'Year of Birth' was utterly zeroed out, a Google search provided the correct data. Furthermore, imputation with the Median or Mean was applied, e.g. in two cases where the data for 'Age' and 'Experience in Years-Groups' led to incorrect responses. Consequently, only correctly completed surveys on Qualtrics were incorporated for the analyses.

Normality: This is the main assumption for bi-/multivariate statistical methods whether it concerns the sample as a whole or specific groups in the sample. Thus, it was critical to detect outliers which might jeopardise normality. Pallant (2013,67) suggested correcting outliers from data entry errors but to eliminate distortive, extreme ones.

Reliability and Validity: The questionnaire is reliable if its repeated application yields consistent scores. This depends on the definition of the construct being unchanged from application to application and developing/selecting measures in line with the construct definition. The definitions of the constructs and measures which are based on the literature review and pilot study were dealt with in Chapter 3. Cronbach's alpha coefficient acts as an indicator to determine whether the items constituting a particular scale captured the defined construct in a consistent way. As a rule of thumb, a value of .70 is seen as a minimum. *Validity* reflects the degree to which the construct actually measures what is meant to be measured. Based on the extent to which the construct correlates with other measures of the same construct it can, for example, be tested on how well the construct conforms to theoretical expectations (Hair Jr. et al., 2011; DeVellis, 2016). Following both principles is vital to minimise measurement errors, e.g., interviewer bias, data input errors, or respondents' misunderstanding/-interpretation (Hair Jr. et al., 2011; DeVellis, 2016).

4.5.2 Simplifying the Data

Factor Analysis: To optimise the number of conjectural constructs and the understanding of the data, two-factor analysis techniques were considered (Pallant, 2013). In the beginning, *Exploratory Factor Analysis* (EFA) was applied to combine dependent and independent variables based on their underlying latent patterns into a smaller set of composite factors. For the factor extraction, Principal Component Analysis (PCA) was used. This method utilised the entire variation (common, unique and error) in the set of variables being analysed to derive the factor solutions. Several criteria were important to derive a set of factors. Firstly, the 'latent root criterion', i.e. Eigenvalue of ≥ 1.0 determined the number of factors to retain based on the unrotated solution. Secondly, the factors combined should account for ≥ 60% of the original variance besides their theoretical meaningfulness. *Orthogonal* (*un*correlated) *Varimax* and oblique (correlated) *Direct Oblimin* rotation were conducted for ease and clarity of interpretation and reporting. The focus was on patterns of loadings to name the factors and a common, underlying meaning among variables with high loadings on a particular factor (Hair Jr. et al., 2011; Tabachnick and Fidell, 2013).

Subsequently, *Confirmatory Factor Analysis* (CFA) was specified in AMOS v23 with the constructs of the research model (Chapter 3). CFA was used to assess the unidimensionality of scale items and to assess discriminant validity among the constructs. The fit was evaluated by reviewing the constellation of indicators. Residual analysis and review of the scale items served to refine measures by leaving the content representation intact while removing individual items. χ^2 difference tests across nested CFA provided an adequate latent construct evaluation (Harrington, 2009). The outcome of both factor analyses is illustrated in Appendices J and K.

4.5.3 Applying Statistical Techniques

Descriptive Statistics: Applying mean value, median, standard deviations and frequencies on both the survey items and model constructs provided an indication of the sample regarding sociodemographic characteristics and representation towards the population.

Correlation and Regression: After assessing reliability and validity of the scales against the theoretical hypotheses concerning the nature of the underlying constructs, Correlation and Regression Analyses (RA) were applied to examine relationships between these constructs (Streiner et al., 2014; Kline, 2015a). Both techniques determine whether there are consistent and systematical relationships for instance between Social Capital SCAP and Business Performance PERF. The *unstandardised covariation 'cov'* shows a relationship between both variables, and is relevant to the Structural Equation Modelling. In contrast, the *Pearson Correlation Coefficient 'r'* as a *standardised measure of covariation* assesses the level of consistent and systematical change of one variable relative to another, see below:

$$\text{cov}_{\text{PERF,SCAP}} = r_{\text{PERF,SCAP}}\ \text{SD}_{\text{PERF}}\ \text{SD}_{\text{SCAP}} \quad \underline{\text{whereby}}\ \text{SD} = \text{Standard Deviation}$$

A correlation coefficient $r \geq 0.70$ (statistical significance $p < 0.05$) reveals a high covariation and strong relationship, yet it also has to be meaningful, i.e. practically significant to draw conclusions (Hair Jr. et al., 2011).

Regression Analysis (RA): Linear relationships between independent (predictor) and dependent (criterion) variable are measured yet *without* drawing any cause-and-effect conclusions. Within the research model (Chapter 3) constructs like Business Performance PERF can be predicted by its predictors, for instance, Social Capital SCAP. The formula for the linear regression that applies is:

$$\hat{\text{PERF}} = a_{\text{PERF,SCAP}} + b_{\text{PERF,SCAP}}\text{SCAP}$$

with $\hat{\text{PERF}}$ = predicted score of performance; $a_{\text{PERF,SCAP}}$ = constant; $b_{\text{PERF,SCAP}}$ = unstandardised regression coefficient

This equation expresses the ideal with a remaining residual $(\text{PERF} - \hat{\text{PERF}})$. To ensure a straight-line relationship, the 'least square criterion' ensures to minimise the sum of the squared residuals or deviations $\sum(\text{PERF} - \hat{\text{PERF}})^2$ between the actual values and the straight-line predicted by the regression. Thereby, the following mathematical equations between regression, correlation and covariance coefficient must be observed.

$$b_{\text{PERF,SCAP}} = r_{\text{PERF,SCAP}} = \frac{\text{SD}_{\text{PERF}}}{\text{SD}_{\text{SCAP}}} = \frac{\text{cov}_{\text{PERF,SCAP}}}{(\text{SD}_{\text{SCAP}})^2}$$

Standardised regression equations: To ensure the comparability of the outcome of various regression analyses $\hat{z}_{PERF} = \beta_{PERF,SCAP}\, z_{SCAP}$ with $\beta_{PERF,SCAP} = r_{PERF,SCAP}$ whereby, $\hat{z}_{PERF}$ represents the predicted score of PERF with the standardised beta weight equaling the correlation coefficient.

Multiple Regression: The objective of this statistical technique is to apply several independent variables in the research model to predict the single dependent value. The relating multiple linear regression formula is as follows:

$$\hat{PERF} = b_0 + b_1 b_{PERF,SCAP}\, SCAP + b_2 b_{PERF,UCRIT}\, UCRIT + e \quad \text{whereby UCRIT = Usage Criteria}$$

with b_0 intercept, b_1 regression coefficient, and e prediction error (residual)

Thereby, the impact of *collinearity* must be identified to reduce any single independent variable's predictive power by the extent to which it is associated with the other independent variables, thus enhancing the prediction of the dependent variable. Specifically, to identify collinearity of SCAP and UCRIT, simple linear regression analysis is *in*adequate since it does not consider partial correlations. To indicate whether genuine collinearity existed, multiple regression analyses were applied by adding other independent variables that have additional predictive power (Appendices L7–L8). Initially, multiple correlation coefficients like $R_{PERF,SCAP}$ or $R_{PERF,UCRIT}$ were calculated. For example, the variance $R_{PERF,SCAP}^2$ explains only a specific part of the total variance of PERF $(SD_{PERF})^2$. Additional other independent variables like UCRIT to the PERF,SCAP regression equation might contribute less than $R_{PERF,UCRIT}^2$ to the explanation of the PERF variance unless the independent variables are *completely uncorrelated*. Only then, partial variances could be summed together.

The *addition of predictors* to the regression equation happened according to their β weight rank identified in the linear regression analyses. If further predictors did not contribute considerably to the explanation of the criterion's variance, it meant that they either did not significantly correlate with the criterion or were strongly collinear with other predictors in the regression equation. Therefore, if a simple linear regression analysis indicated that a hypothesis was confirmed for a particular predictor there remained the uncertainty whether it was in fact *genuine*.

Structural Equation Modelling: All the preceding techniques shared the limitation that they can only examine a single relationship between dependent and independent variable at a time. Conversely, SEM techniques were used when the research model should be tested simultaneously in its entirety. This means SEM assessed how well theory is expressed regarding the relationships among the measured variables and latent constructs (variates) in the research model and if it would fit reality as represented by the data collected. In the context of this research, particularly, *Confirmatory Factor Analysis (CFA)* and *Path Analysis* were considered from the group of SEM techniques.

Confirmatory Factor Analysis (CFA) (explained before) served as a *measurement model* for theoretical justification to examine a priori relationships between the latent factors and a group of measured items while *Path Analysis* as a structural method that relates latent variables to one another served to estimate and interpret the *strength* of each relationship with *bivariate correlations* (Hair Jr et al., 2009).

As a subset of SEM *Path Analysis* considers the structural model and focuses only on observed variables with one single item in each case. Since this research involves various multi-item scales, *Item Parcelling* seems an excellent modelling technique particularly in light of a latent-factor analysis. Instead of the individual items/indicators, *Item Parcelling* calculates the average values of various scale items to substitute latent constructs by observed ones (Bandalos, 2002; Bandalos, 2008). The parcelling technique obviates some of the challenges to comply with SEM estimation procedures such as missing data and nonnormality. *Item Parcelling* bears advantages like minimising the number of indicators for latent constructs or approaching normality with the indicators, (Little et al., 2002). Its disadvantages might result from multidimensional items when their parcelling distorts the factor structure (Bandalos, 2002).

The SEM Process followed in this research is depicted below.

Figure 4.1 Structural Equation Modelling Process
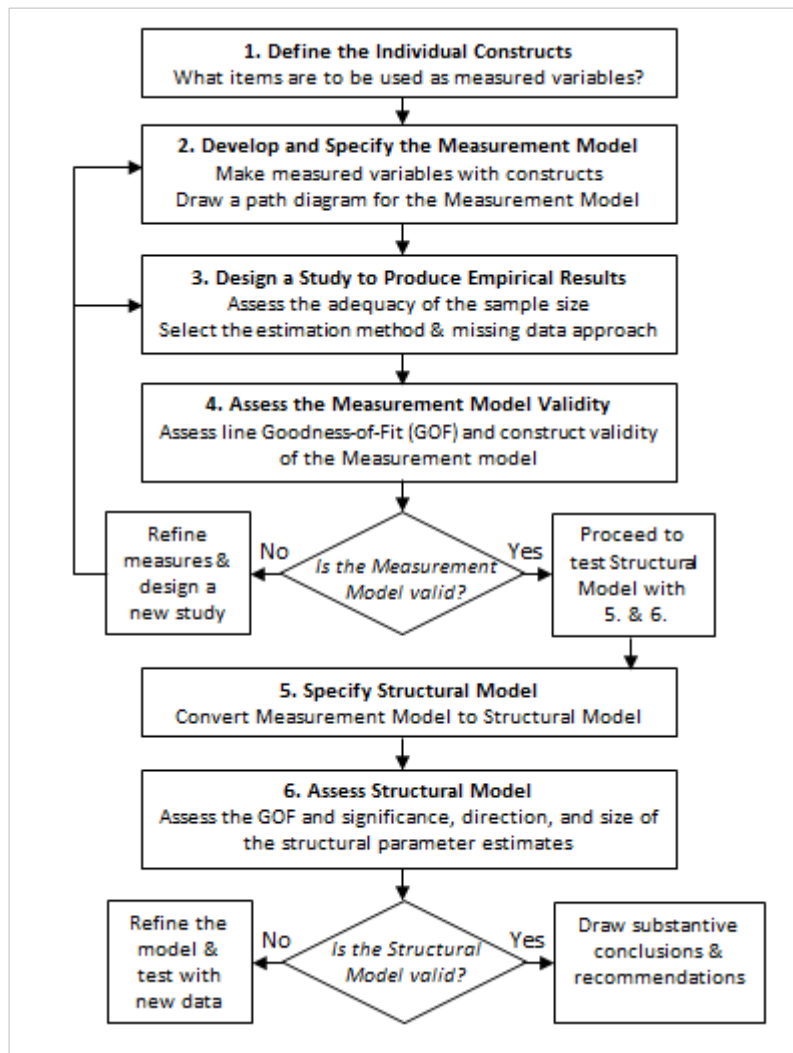
Source: Hair Jr et al. (2009,654)

Define the Individual Constructs: The constructs were identified, developed and selected as a result of the literature review and pilot study. Thus, the pre-test/provisional questionnaire used constructs and scales drawn from various academic sources which were combined with newly developed scales. The pre-test helped to refine the constructs which often applied in contexts outside their original use.

Develop and Specify the Measurement Model: The *measurement model* will be discussed in greater detail in Chapter 5. It is important here to mention the different kinds of relationships. In particular, *loadings* between items and constructs (*measurement relationships*), covariances among constructs (*correlational relationships*) and *error terms* related to individual items. Moreover, issues addressed include the validity and unidimensionality of constructs and scales, the number of indicators and construct specification.

Design a Study to Produce Empirical Results: Research design considerations, e.g., sample size requirements have been discussed before to ensure research results with adequate statistical precision and significance tests with reasonable power (Kline, 2015b).

Assess Measurement Model Validity: The large-scale online survey aims at collecting relevant and sufficient data to obtain *acceptable levels of goodness-of-fit (GOF)* for the *measurement model validity* and provide evidence in terms of the *construct validity* of the path model.

The underlying *null hypothesis* H_0 tests the overall fit of the SEM statistically. It implies that both, the *estimated* population covariance matrix (model *theory*) and *observed* sample covariance matrix from the collected data (*reality*) are identical. If $p < .05$ the H_0 is rejected whereas at $p \geq .05$ the H_0 is supported that there are *no* differences.

Model χ^2: The H_0 is tested with a *chi-square test*, whereby according to the degrees of freedom of the model (DF) small χ^2 values with corresponding larger p-values indicate that there are *no* statistical differences between both matrices supporting a match of theory with reality and vice versa. A good model fit provides a statistically insignificant result at a $p > .05$ threshold (Barrett, 2007). In AMOS the χ^2-Index is known as CMIN, whereby a CMIN = 0 means the best possible fit. One disadvantage consists of the high sensitivity to sample sizes: In case of large samples χ^2 nearly always rejects the model, and with small samples, it may not differentiate between good and poor fits. Alternatively, *relative chi-square χ^2/DF* helps to minimise the influence of the sample size (Hooper et al., 2008).

Due to this restriction χ^2 is *not* used as a stand-alone Goodness-of-Fit (GOF) measure. Therefore, additional indices must be taken into consideration to assess the fit between theory in this research context and the sample data. It is noteworthy that these indices do often not function individually for all models, and therefore should be combined with others (Davey, 2005).

Hair Jr et al. (2009,665) provide an overview of conventional GOF measures "that reflect various facets of the model's ability to represent the data" with a distinction between 'absolute', 'incremental' and 'parsimony fit' measures. *Absolute measures,* e.g., χ^2 provide the most basic assessment and should be complemented by other guidelines.

Root Mean Square Error of Approximation (RMSEA) and (Standardised) Root Mean Residual (SRMR). RMSEA has gained increasing recognition due to its sensitivity to the number of estimated model parameters and advocating model parsimony. Sample size issues can be bypassed by examining the difference between the hypothesised model with the best possible selection of parameter estimates and the population covariance matrix (Hooper et al., 2008). One advantage of the *RMSEA* consists of applying a confidence interval around its value.

(S)RMR represents the (standardised) square root of the discrepancy between the covariance matrices of both sample and population.

SRMR improves the interpretation of the indicators from questions with varying scales. Values ranging from .06 (.08) or less for the *RMSEA (SRMR)* indicate an acceptable fit (Hu and Bentler, 1999).

Goodness-of-Fit Index (GFI) and Adjusted-Goodness-of-Fit Index (AGFI): These indices represent an alternative absolute measure to χ^2 since it is less sensitive to sample size from a sampling distribution perspective. GFI determines the proportion of variance accounted for by the estimated population covariance (Tabachnick and Fidell, 2013). There are biases involved with a more substantial number of degrees of freedom relative to the sample size or with larger sample size. The *AGFI* is considered a *parsimony fit* measure which means that a more straightforward model or better fit among a set of competing models is favoured over a complicated model. The *AGFI* adjusts the *GFI* on the basis of degrees of freedom. The range for both, *GFI* and *AGFI*, is 0 to 1 with values of >.90 indicating a good fit. A higher cut-off .95 is preferable in case of lower factor loadings and sample sizes. Similarly to *GFI*, *AGFI* is sensitive to sample size (Hooper et al., 2008).

Incremental measures assess the fit between the estimated model and an alternative *baseline model* also referred to as 'null/independence model' by comparing their χ^2 values. The 'null model' implies the worst case, i.e. all observed variables are *un*correlated, without any multi-item factors or relationships between them. Examples of incremental measures are *Normed Fit Index (NFI)* and *Comparative Fit Index (CFI)*. Similarly to the previous fit indices the range is between 0 and 1, whereby values closer to 1 present a good fit. The drawback of the *NFI* is that it *under*estimates model fits for samples n < 200. The *CFI* represents one of the more popular indices since it remedies the shortcomings of small sample sizes.

In conclusion, the selection of fit indices is guided by deliberations like what fit indices are suitable to specify a model fit objectively and what are threshold levels suggesting a good fit for a particular fit index as illustrated in Table 4.7,136 (Hair Jr et al., 2009).

Specify the Structural Model: Specifications concentrate on using dependence relationships between the constructs to represent the structural hypotheses of the proposed theoretical model derived from the literature. The *measurement* model is viewed as a 'confirmatory factor analysis model' including the exogenous and correlated constructs. The dependence relationships and correlations can be replaced by structural paths. Thus, both the measurement and structural components of the SEM are combined into an overarching path model.

Assess the Structural Model: In this *final* phase, the structural model validity and its hypothesised theoretical relationships are evaluated. The objective is to ensure not only an *acceptable fit* of the structural relative to the measurement model but also improves its performance compared to alternative or competing models.

Table 4.7 Fit Indices for the Specification of Structural Equation Models

Category	Fit Index	Threshold Level	Description
Absolute	χ^2 Statistic	The smaller the χ^2, the better the model-data fit. Influenced by the model's degrees of freedom (DF); applicable for N in value of range of [100; 200].	Key Value to assess the GOF of any SEM. Its value increases as sample size (N) increases et vice versa.
	Relative χ^2 (χ^2/DF) CMIN (AMOS)	2:1 or 3:1 CMIN/DF $\leq$ 3 is acceptable.	Adjusts for sample size. Considers Degrees of Freedom
	Root Mean Square Residual (RMR)	RMR < .08 indicates good fit.	The average squared differences between the residuals of the sample covariance matrix and the hypothesised covariance model.
	Standardized Root Mean Square Residual (SRMR)	Value range $0 \leq$ SRMR ≤ 1 SRMR < .05 indicates good fit. SRMR < .08 indicates acceptable fit.	Standardized version of RMR which is easier to interpret.
	Root Mean Square Error of Approximation (RMSEA)	95% confidence interval RMSEA $\leq$ .03 indicates excellent fit. RMSEA $\leq$ .06 indicates good fit. RMSEA > .10 is not suitable. Only applicable for N > 100	How well the model with unknown but optimally chosen estimates would fit the population covariance matrix. Adjusted χ^2 Statistic
	Goodness-of-Fit (GFI)	GFI > .95 indicates good fit. Value range $0 \leq$ GFI ≤ 1 Has no absolute cut-off.	Higher Values indicate better fit. Statistic should be used with caution because of sample size sensitivity.
Parsimony	Adjusted Goodness-of-Fit (AGFI)	GFI > .95 good fit Value range $0 \leq$ GFI ≤ 1 Has no absolute cut-off.	Adjusts GFI based on the number of model parameters.
Incremental	Normed Fit Index (NFI)	$0 \leq$ NFI ≤ 1 NFI $\geq$ .95 indicates good fit. NFI = 1 represents perfect fit. Only applicable for sample N > 100 Has no absolute cut-off.	Considers sample size. Is the ratio of the difference in the χ^2 value for the fitted model and a null model divided by the χ^2 value for the null model Tends to underestimate model fit with smaller sample sizes.
	Comparative Fit Index (CFI)	$0 \leq$ CFI ≤ 1 CFI $\geq$ .95 represents good fit. Has no absolute cut-off.	Considers sample size.

Source: Adapted from Hair Jr et al. (2009); Kline (2015b)

Modification indices (MI) assess *alternative models* in one single analysis and report the *reduction* of the χ^2 value which results from potential relationships neglected in the structural model (Hair Jr et al., 2009; Arbuckle, 2010). It is critical that modifications must be *meaningful* in terms of the theory tested or stated as its limitation.

To support a suggested structural theory based on the literature review the estimated parameters for the structural relationships are examined as empirical evidence relating to the hypothesised theoretical relationships. Consequently, the model analysis with AMOS demonstrates validity by an improved model fit and path estimates, that are statistically significant in the predicted (positive or negative) direction and nontrivial.

4.6 Discussion

This chapter presents the fundamental methodological considerations relevant to the research. The initial part of this chapter discusses the underlying research philosophy, strategy and tactics.

The study centres on the impact of Social Media on various B2B-Business Development process phases and resultant Business Performance. The unit of analysis refers to executives in B2B-Business Development related functions of medium-/large-sized B2B-software companies.

The pursuit of mixed methodologies is a logical consequence of considering a (post)positivist research philosophy to tackle the research problem. Moreover, this approach traces back to the fact, that the tiny number of studies in Business Development is carried out qualitatively whereas the vast majority of studies in Social Media in B2B is conducted mainly quantitatively. Though the need for technology in Business Development got a mention in the past, and few Social Media studies are conducted in Marketing or Sales, no specific study focuses on Social Media usage in B2B-Business Development processes.

Mixed methods provide richer research by considering the phenomenological paradigm thereby focusing on facts and meanings. Particularly, objective and subjective beliefs can be blended. The in-depth or over-time investigation of small samples, typical for the phenomenological paradigm, remains out of this research scope. The aim is to operationalise core concepts to make them measurable or "reducing phenomena to simplest elements try to understand what is happening" (Remenyi et al., 1998,104). By triangulating quantitative data with findings derived from the 'value of the research assessment' of the online survey (Chapter 6.10,214) the research will be even deepened.

The last part of this chapter describes the research process. Starting with the preparatory phase, the development of the research design, questionnaire and the execution of the survey are predominant. Then, mixed methodologies applied will be explained in greater detail. While *Thematic Analysis* is emphasised in the qualitative phase, *Factor/Regression Analyses* and *Structural Equation Modelling* are the primary methods used in the quantitative phase.

5 The Outcome of Quantitative Research

This chapter starts with screening, cleaning the data and preliminary analyses. It continues with checking the reliability of the scales. After testing the (sub)hypotheses with regression analysis, the chapter will present the outcome of the structural equation model analyses and conclude with a summary of the outcome.

5.1 Screening and Cleaning the Data

The survey resulted in 543 responses, 112 anonymous and 431 identifiable by email. This means an *overall* response rate of 4.55% for 431 surveys. All 543 responses were valid and included in the analyses since they were submitted within the set limit of eight weeks, and the data was complete due to the forced response validation of Qualtrics. Additionally, 738 responses (188 anonymous and 550 identifiable) were excluded from the analyses at the cut-off date of 28 May since they were only started and either not or partially completed.

Descriptive Statistics for Socio-Demographics: a detailed overview of the first set of analyses for Socio-Demographics is provided in Appendices G1–G7 and summarised in the table below.

Table 5.1 Characteristics of the Sample

Characteristics of the sample	%	Characteristics of the sample	%
Region of Company Headquarters		*Current or Recent Career Level*	
DACH (Germany, Austria and Switzerland)	34.6	Board Member, C-Level	26.7
North America (US and Canada)	26.9	Senior Management Level	23.9
Western Europe (incl. UK)	24.7	Middle Management Level	31.1
Others	13.8	Senior Level, Associate, Account Manager	14.4
Company Size (Number of Employees)		Junior Level, Associate, Account Executive	3.9
Enterprises	47.5	*Gender*	
Small-sized Businesses	31.5	Male	77.7
Large-sized Businesses	10.9	Female	22.3
Medium-Sized Businesses	10.1	*Average Age*	46.8
Approximate Annual Sales Revenue		*Education*	
≤ 250 Mio £, € or $	50.3	Master	66.7
> 250 Mio ≤ 500 Mio £, € or $	5.0	PhD	10.3
> 500 Mio ≤ 750 Mio £, € or $	4.6	4 Year College (Bachelor)	17.3
> 750 Mio £, € or $	40.1	2 Year College or Less	5.7
Primary Three Industries Classification		*Professional Background*	
Business & Professional Services, Consulting	16.4	Generalist, multiple hats (similar career)	48.8
Technology (Software)	12.6	Diverse (multiple career changes)	27.8
Technology (Services)	9.0	Expert, Specialist (always same career)	23.4
Current or Recent Employer		*Roles & Responsibilities*	
Vendor	35.7	Mixed Roles	46.0
Third Party	44.2	Mostly Leadership Roles	42.8
Buyer	20.1	Mostly Team Roles	11.2
Corporate Functions in the Organization			
Executive Leadership	20.9	*Years of Professional Experience*	
Business Development	19.0	≤ 10 years	14.2
Operations (Procurement, Technology)	18.2	> 10 years ≤ 20 years	32.2
Pre-Sales and Sales	14.4	> 20 years ≤ 30 years	35.2
Remaining Functions	27.5	> 30 years ≤ 40 years	14.9
N = 543		> 40 years	3.5

Unexpectedly, the sample demonstrated a high diversity from a regional standpoint. Respondents with corporate headquarters in DACH (34.6%) and North America (26.9%) were particularly strongly represented followed closely by Western Europe (24.7%). The remaining global regions were clearly underrepresented (13.8%) which might be due to their low level of representation on LinkedIn/XING. Enterprises (47.5%) and small companies (31.5%) accounted for nearly four-fifths (79.0%) of the data whereas large-sized (10.9%) and medium-sized (10.1%) companies formed the minority (21.0%). Also, businesses with the lowest and highest annual sales revenue brackets represented over 90.0% in the sample.

The respondents originated from 21 lines of business of which the highest parts of the sample worked in Business Services, Consulting, and Professional Services (16.4%) followed by Technology Software (12.6%) and Services (9.9%). A sizeable portion (≥ 7.0%) worked in the Financial Services, Real Estate industry (8.4%) and in Technology Engineering (8.2%). Besides Education & Research Institutes, the Automation, Transportation & Mobility industry was suitably represented in the sample (> 6.0%). The remainder of the sample reported fourteen other trades.

The sample was compiled from 35.7% vendor, 44.2% third-party and 20.1% buyer professionals in the B2B-software (related) services and solutions arena. It became apparent that two out of five respondents assumed an Executive Leadership (20.9%) and Business Development role (19.0%). Respondents from other categories representing more than 10.0% originated from Operations (Procurement) (18.2%) and Presales & Sales (14.4%). What seemed unusual was that more than four out of five respondents had reached a career level in the *Middle* or *Upper Management* compared to a minority in junior- or senior-level positions.

The *profile* of the respondents shows a *male-dominance* 77.7% versus 22.3% females with an average age of 46.8 years. Respondents of *Generation X* with *higher education*, Master and PhD degrees are clearly over-represented. For example, the majority 71.6% is between 36 and 56 years old. Similarly, regarding education, 77.0% completed higher education versus 17.3% with a medium level or 5.7% lower level of education. The sample shows that most respondents are *generalists with multiple hats in a similar career* (48.8%), followed by *frequent career changers* (27.8%) while *steady careerists* represent the bottom (23.4%). Nearly 90% of the respondents held mostly *mixed or leadership roles* while a small remainder had mostly *team roles* (11.2%). This might be attributable to the fact that more than one third of the respondents looked back onto *not less than 20 to 30 years professional experience* (35.2%) closely followed by nearly a third h*aving worked more than 10 to 20 years* (32.2%) while the remaining third included respondents with either *shorter* (14.2%) or *far more considerable* (18.4%) *work experience*.

In Appendices G8–G11 the *Inclination/Hesitation towards Social Media Business Usage* is described. The following types were classified concerning usage inclination/intensity for business purposes: 45.6% of the respondents demonstrated *lower* usage intensity, 18.4% a *moderate* usage intensity while the remaining 36.0% showed *higher* usage intensity.

The actual business usage inclination/intensity of the various social media channels differed. While webinars (63.9%) and blogs/microblogs (50.5%) were *more seldomly used*, it was the other way around with online forums being *frequently used* 54.0% (*weekly or more often*). As expected the majority (58.0%) stated to engage Social Networking Sites LinkedIn/XING regularly to grow their network. Slightly disappointing appeared the response rate to Facebook. 71.8% of the respondents considered this media *somewhat rare* to build a business network. The users of corporate websites roughly balanced each other out: while 36.8% stated to use this channel rather *seldom*, 44.0% reported *recurrent business usage*.

As regards the *Hesitation/Inhibition* towards *Social Media Business Usage* the results of all statements showed that far more than half of the respondents either *did not take* a hesitating position or *were undecided*. The noteworthy exception was that more than a third (36.8%) of the respondents expressed some *privacy* concerns. According to the multi-response, 57.3% (31.3%) of the respondents revealed a *lower (higher)* inhibition towards Social Media Business Usage with 11.4% being *indifferent*.

Appendices G12–G15 provides further detail analyses regarding *Inclination* and *Hesitation* the dimensions of Social Media Business Usage in various corporate functions. It seems noteworthy that the *Marketing function* is in average *considerably more inclined* to use Facebook than *Business Development* or *Pre-Sales & Sales*. Though the *C-Level* respondents signalled a *similar attitude* like *Business Developers* towards Social Media Business Usage, they engaged even more in blogging or microblogging (Appendix G13). It was also interesting that C-Level and Marketing professionals indicated that they were on average less concerned about their behaviour like avoiding violating company policy – one of the statements for Hesitation towards Social Media Business Usage. Possible explanations for such a response might be the status of top management and the more open and creative personalities of marketing professionals.

Missing Value Analysis: As mentioned in Chapter 4.5.1,128 it is critical to examine the data pool for missing data to ensure the original distribution of values as precisely as possible after applying remedial actions (Hair Jr et al., 2009). Conducting missing value analyses before proceeding with statistical analyses can avoid a bias (systematic error) if missing data demonstrates systematic patterns or relationships (Rose et al., 2014). An overview of the missing data statistics for the entire sample and the three sub-samples, vendor, third-party and buyer is provided in Appendices H1–H5.

Identifying Missing Values: The risk of missing data was mitigated mainly by designing the online survey in such a way that respondents were required to complete the answers before being allowed to progress with and ultimately submit the survey (Evans and Mathur, 2005). The outcome of the pre-test indicated that a small minority might abstain from Social Media usage, especially in the information-sensitive aerospace and defence industries to avoid the risk of false misrepresentations, legal exposure and leaks of confidential information (Giamanco and Gregoire, 2012).

For example, concerning the importance of Social versus Traditional Media usage in business, only a small proportion of all respondents (1.47%) admitted to applying exclusively Traditional Media. Other reasons that imply missing systemic values might lie in the reservation of the respondents to release transaction-specific information and/or difficulties they might face trying to estimate the impact of Social Media Usage on Performance Measures.

Thanks to the forced answers survey design, most components of the research model did not contain any missing values (Appendices H1–H2). As expected, one major exception referred to the dependent variable as indicated below. Question Q4g (BENEP) tried to estimate the ultimate impact of Social Media Usage on Business Performance in a given period with five choices ranging from (1) '0% up to 1%', (2) 'more than 1% up to 5%', (3) 'more than 5% up to 10%', (4) 'more than 10% impact on performance' and (5) 'Don't know at all'. To avoid inflated Means and SD values, the 'non-opinion' response option (5) was considered as a missing value. The original Means and SD were reduced from 3.34 to 2.87, respectively from 1.212 to .936 indicating that the omission of the recoding would have distorted the results (Appendix H3). The recoding process appeared justifiable since the reasons for missingness remained concealed: the respondents might have been unable, hesitant or just refused to release this information (Schafer and Graham, 2002; Bryman and Bell, 2015).

A similar pattern became apparent (Figures 5.1–5.2) which relates to the specific survey design aiming at mirroring the *estimated average duration* of Business Development/Sales or Procurement software processes in line with Gronau (2001). The two questions arrived at very different results. Obviously, far more respondents left Question Q4h unanswered 'don't know it all' 79 (14.5%) compared to Question Q4i, 17 (3.1%) 'zero' responses for both sliders. This suggested that the higher rate might well be that the minimum/maximum processes in Q4i are commonly known in practice and that the use of sliders appeared more *comfortable* and *enjoyable/playful* compared to the 'mathematical' approach in Q4h which required computing the *average* process values. The chi-square analysis partially supported these assumptions for *Ease of Use* whereas the lack of statistically significant results for *Playfulness* did not allow to draw this conclusion. (Appendix H7).

To ensure the most precise results, mainly about averaging (Appendix H5), the 'don't know it all' and 'zero' responses in Q4h and Q4i were excluded as 'missing values'.

Figure 5.1 Missing Value Recoding Option 'Don't know' Typical Duration

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Figure 5.2 Missing Value Recoding Option 'Zero' Minimum and Maximum Duration

Q4i: What is the estimated minimum duration of the B2B (Services/Solutions, e.g. Software) Business Development/ Sales [1] (B2B Procurement (Services/Solutions, e.g. Software) Process) [2] in months and the estimated maximum duration in months? Please use both sliders!

Sliders	0	6	12	18	24	30	36	42	48

| Minimum Duration in Months | | | | | | | | | 0 |
| Maximum Duration in Months | | | | | | | | | 14 |

In Qualtrics survey *only visible* for Vendors and Third Parties [1] respectively for Buyers [2]

Finally, the noticeably high missing value rate of 154 (28.4%) in Question Q4k (Figure 5.3; Appendix H5) suggested that the respondents' hesitation to release sensitive data might vary with the *company size* and depend on whether the respondent belonged to the vendor/third-party or buyer side. This assumption was supported by various chi-square analyses with a statistically significant outcome. It appeared that the majority of those respondents which withheld information belonged to international *Enterprises* (Appendix H6). While the findings in third-party and buyer sample demonstrated the highest values, these results had to be handled with caution because they violated the chi-square assumption concerning the minimum expected cell frequency.

Figure 5.3 Missing Value Recoding Option 'Zero' Annual Revenues

Q4k: What is the estimated total value of your B2B (Services/Solutions, e.g. Software related) sold [1] purchased [2] during the last fiscal year (2016)? Only one answer!

○ ≤ 49,999 USD, BP, or Euro
○ ≥ 50,000 ≤ 99,999 USD, BP, or Euro
○ ≥ 100,000 ≤ 299,999 USD, BP, or Euro
○ ≥ 300,000 ≤ 599,999 USD, BP, or Euro
○ ≥ 600,000 ≤ 999,999 USD, BP, or Euro
○ ≥ 1,000,000 USD, BP, or Euro
● Don't know at all

In Qualtrics survey *only visible* for Vendors and Third Parties [1] respectively for Buyers [2]

The Missing Value Analysis revealed *no* unique patterns besides these anomalies.

Possible Remedies: Choosing the suitable remedy for missing values, e.g. replacing missing values with estimated values or just eliminating these cases, necessitates a diagnosis of the underlying missing data processes. This to ensure complete data which are the pre-requisite for further analyses and the generalisability of the results.

The suggestion by Hair Jr et al. (2009,64) that "no systematic missing data process exists, making the missing data MCAR (missing completely at random)" allows various remedies dependent on the extent of missing values. For example, the missing values in Question Q4h (3.1% << 10% Rule-of-Thumb) which were expected (research design, i.e. the response option: 'don't know at all') could be ignored.

Another remedy was the exclusion of missing values in excess of 10% which applied to Question Q4i (14.5%) provided that the alternative Question Q4h ensured the research.

Missing Values over 20% like in Questions Q4g (23.1%) and Q4k (28.4%) suggested the imputation (substitution of missing values through replacement values).

At first glance, it appeared plausible to exclude Question Q4g to avoid the issue of missing values in its entirety since the other research model related questions did not contain any missing values. To justify a decision in favour of using the original sample size of 543 and abandoning Question Q4g, it seemed reasonable to bear in mind that the primary research focus was on *optimising* Business Development processes through Social Media Business Usage. Moreover, though an inevitable impact on Business Performance was ultimately expected, the accuracy of this impact was instead be considered as secondary. Consequently, Question Q4g was deemed to relate just in a broader sense to Business Performance. At a second glance, the inclusion of Question Q4g* would result in a reduced sample of 422 which was still sufficient for performing intended analyses like the SEM.

The initial consideration to separate Social Media Users from Traditional Media Users to minimise the number of missing values was discarded since it could not be concluded that the minor proportion (1.47%) which stated to use Traditional Media exclusively in their private sphere would replicate a similar usage behaviour in business.

The contemplation to eliminate all cases with missing values in Questions Q4g and Q4k would have reduced the sample to 422 respectively 389 respondents. However, the fact that these three questions had almost no effect on the research model or only represented the answer for one of the subquestions of the research made the decision less stressful whether to include all original 543 cases or consider only 422 cases by deleting those with incomplete data in light of the analyses. The incomplete data was further examined in the Late Response Analysis.

Checking Non-Response Bias: Though 543 completed responses (112 anonymous links, 431 Social Media, LinkedIn and XING) seemed impressive, it should not be overlooked that only one out of 10 Social Media connections started the survey with less than half completing it. This yielded a response rate of 4.55% for both Social Media (LinkedIn and XING) which was sobering. A criterion worthy of consideration is that though the average turnaround time in email/online surveys of 5.59 days versus 12.21 for regular mail surveys by Ilieva et al. (2002) seems beneficial, it might be challenged by today's dumpster of online surveys and the resulting survey fatigue.

Surprisingly, the average response time of this survey was about 1.05 days with a Standard Deviation of 3.60 days and a minimum (maximum) completion time of 14.4 minutes and 25.26 days. Still, this widespread outcome and also the fact that different regions and time zones were involved raised the concern whether a *bias of non-response* existed.

For verifying the conditions of a potential non-response bias, the 'successive waves' extrapolation method was applied. This method assumes that respondents who completed and submitted their survey in later waves because of follow-up stimuli, e.g. Social Media reminder postings were regarded similarly to non-respondents (Armstrong and Overton, 1977). Though follow-ups are very critical to ensure fast and high turn around of response rates the various follow-ups through Qualtrics emails and Social Media updates resulted in decreasing waves of responses. This is pointed out by Solomon (2001); Deutskens et al. (2004) because of potential irritation when online follow-ups are launched too frequently or might be perceived as spam. Similarly, the researcher's ambition to secure a sufficient sample by the end of May 2017 through regular email reminders and Social Media updates was perceived by a few non-respondents either as *spam* though each email contained the unsubscription link or as *pushy* regarding the decreasing distribution/follow-up intervals.

Three waves (early, regular and late) were formed to classify the timing of survey submission in the late response analysis depicted below.

Table 5.2 Late Response Analysis

Wave	Response Period	(Sub-)Sample	Proportion
Early	Completion and Submission *within five days* after access to online survey	$N_E = 502$	92.4%
Regular	Completion and Submission *within ten days* after access to online survey	$N_R = 20$	3.7%
Late	Completion and Submission *after ten days* after access to online survey	$N_L = 21$	3.9%
Total		$N_T = 543$	100.0%

The expectation that a statistically significant relationship between the time to complete and the timing to submit the survey existed was confirmed (p = .000). All respondents who completed the survey within 30 or 60 minutes submitted it within five days (*early* wave). In contrast, each who took more than one hour to complete the survey belonged either to respondents of the *regular* or *late* wave (Appendices I1–I2). Conversely, the possibility of a statistically significant relationship between the Antecedents 'Hesitation/Inclination towards Social Media Business Usage' and Submission Time (Waves) was unconfirmed.

The first stage of the late response analysis consisted of a wave analysis beginning with an *equality of means test* between the three sub-samples for questions with a high degree of non-responses like Questions Q4g and Q4k. The analysis is described in detail for Question Q4k in Appendices I3–I4. The *equality of means test* revealed *no* statistically significant differences.

Also, the conducted *linear regression analysis* with the waves deemed as 'continuous' outcome variable due to the underlying completion time and a set of seven predictors did not identify any significant correlations (Appendices I5–I9). At this point in the late response analysis, it was not determinable whether significant non-response bias existed.

The preliminary consideration to exclude the cases with missing values was neglected as discussed before since the questions with missing values did not necessarily pertain to the actual research model. The next stage involved conducting *linear regression analyses* for the main hypotheses. The following table summarises the results of the three waves.

Table 5.3 Linear Regression Analyses for the Waves of Responses

Survey Questions	Model Hypothesis	Regression Variables		Early Wave ($N_1 = 502$)	Regular Wave[4] ($N_2 = 20$)	Late Wave[4] ($N_3 = 21$)
		Outcome	Predictor(s)	Standardized Regression Coefficients (Beta)		
2a; 1g–1h	H_1	TSMBI	TISMBU[1]; TRHSMBU[1]	.298; -.243	.052; -.466	.313; -.294
2b; 1g–1h	H_2	TRSMBII		.270; -.197	.413; -.077	-.101; .325
2c; 1g–1h	H_3	TSMBIII		.289; -.259	.151; -.347	.129; -.099
2d; 1g–1h	H_4	TRSMBIV		.309; -.219	.250; -.301	.745; .208
2a; 3a; 3c	H_{5a}	TSMBI; TPERF	TSCAP[2]	.533; .606	.599; .561	.520; .846
2b; 3a; 3c	H_{5b}	TRSMBII; TPERF		.481; .606	.500; .561	.466; .846
2c; 3a; 3c	H_{5c}	TSMBIII; TPERF		.583; .606	.490; .561	.698; .846
2d; 3a; 3c	H_{5d}	TRSMBIV; TPERF		.487; .606	.332; .561	.687; .846
2a; 3b; 3c	H_{6a}	TSMBI; TPERF	TRUCRIT[2]	.219; .210	.607; .339	.170; .142
2b; 3b; 3c	H_{6b}	TRSMBII; TPERF		.297; .210	.573; .339	.200; .142
2c; 3b; 3c	H_{6c}	TSMBIII; TPERF		.198; .210	.500; .339	.159; .142
2d; 3b; 3c	H_{6d}	TRSMBIV; TPERF		.242; .210	-.016; .339	.172; .142
2a; 3c; 4b	H_7	TPERF[3]; TRSMJU[3]	TSMBI	.572; -.468	507; -.142	.572; -.419
2b; 3c; 4b	H_8		TRSMBII	.606; -.537	.659; -.129	.373; -.365
2c; 3c; 4b	H_9		TSMBIII	.685; -.609	.550; -.339	.567; -.433
2d; 3c; 4b	H_{10}		TRSMBIV	.644; -.581	.574; -.119	.620; -.272

[1] The antecedent impacts both outcome and predictor variables; for simplicity reasons the antecedent in H_1–H_4 is treated similar to a 'predictor' variable. Thus, the predictor acts as an 'outcome' variable of the antecedent.

[2] The moderators affect the correlation of both, predictor and outcome variables. In the linear regression analyses they are regarded as 'predictors' towards the predictor variable which again takes the role as the 'outcome' variable and is regarded as 'predictor' towards the outcome variable.

[3] The linear regression analyses were conducted separately for each of both outcome variables.

[4] No statistical significance

For comparison reasons, the values of various variables were converted to the same scale expressed in the *standardised coefficients* (Pallant, 2013). Generally, the *beta* values indicated only statistical significance ($p < .05$) for the first wave, contrary to the results for the latter two waves. Thus it became impossible to make a trend statement regarding growing or shrinking contributions of the predictors across the waves posing a potential limitation. However, it became evident for the *early wave* that the contributions of the antecedent 'Inclination to Social Media Business Usage' (TISMBU) to the four Business Development phases scales (TSMBI–IV) were quite similar while those of the moderators, Social Capital (TSCAP) and Usage Criteria (TRUCRIT) to both Business Development phases

TSMBI–IV and Business Performance (TPERF) varied considerably. TSCAP tended to make *stronger* contributions compared to TRUCRIT to explain both TSMBI–IV and TPERF.

Assessing Normality: It appeared essential to examine the *assumption of normality* for the entire sample and individually for the three partial samples (vendor, third-party, buyer) to detect potential disparities regarding the distribution. Normality is preferable to avoid a distortion of data and relating to the outcome variable it is the *prerequisite* for exploring differences between groups with t-tests, ANOVA, Pearson correlation and forthcoming multivariate analyses. The *normal distribution* of the data was assessed in two ways. *Graphically*, by analysing the histograms and normal probability/box plots and *numerically*, by evaluating the skewness, kurtosis and comparing the *original* and *trimmed* mean values. For parsimonious reasons, the assessment is demonstrated in detail for one of the constructs 'Total Inclination for Social Media Usage in Business' (TISMBU) in Appendices I10–I13 whereas the results for the major model constructs are summarised in Appendices I14–I15. The graphical assessment indicated a 'reasonable normal distribution' of the data with Skewness and Kurtosis numbers *well below* the values suggested in the guidelines.

Outliers: The analysis of the boxplots testing for univariate outliers revealed only a *small* number of outliers representing values which were *unusually* high or low compared to the other observations. The decision to retain or eliminate these values depended on how they impacted the remaining dataset. For example, if outliers were similar to the remaining data, they were kept to warrant generalisability, and if they were not representative of any observation, their elimination would have been inevitable. The drawback of detecting outliers simply by boxplots is that this procedure becomes inadequate when examing several variables. Mahalanobis distance at $p < .001$ represents a way forward to detect multivariate normality/outliers allowing to trace each observation's distance from the centroid or data point of the remaining cases. Thereby, the centroid represents the position formed by means of the considered variables. However, the Mahalanobis distance value makes no statement which particular variables might be causal (Hair Jr et al., 2009; Pallant, 2013).

The *low* values of *Skewness* and *Kurtosis* highlighted in Appendices I14–I15 did not give reason to raise objections in light of univariate outliers.

Since *multivariate normality* is critical for advanced analyses like the Structural Equation Model, it is required to examine the Mahalanobis D^2 measure which was conducted with SPSS for the original sample (n = 543), i.e. without missing values with its three sub-samples, vendor (n = 194), third-party (n = 240) and buyer sample (n = 109). Additionally, the original sample was also examined for multivariate outliers regarding the four regions, Dach (n = 188), Western Europe (n = 134), North America (n = 146) and the remaining regions which were combined (n = 75) to ensure a sufficient sample size I16–I17. To obtain *reasonable normality* with Skewness and Kurtosis values of $\leq \pm 1.0$ and $\leq \pm 3.0$, the Mahalanobis distance values were interpreted with a $\chi^2_{.999\ (15\ df)}$ distribution with 15 considered variables at α of $p < .001$. Any case with a Mahalanobis distance value of $\geq$ 37.697 (χ^2 critical value) was interpreted as a *multivariate outlier* (Meyers et al., 2006).

Altogether thirteen outliers were removed leading to the *refined*, total sample size of 530. The refined (sub)samples after the elimination of the multivariate outliers are contained in the Tables 5.4–5.7 to lay the groundwork for the multivariate analyses.

Table 5.4 Descriptive Statistics for the Total Sample (N$_T$)

Multivariate Outlier Analysis for the Total Sample (N$_T$)

Question	Construct Scale Variable	Before the Elimination of Outliers (N$_T$ = 543)					After the Elimination of Outliers (N$_T$ = 530)				
		Mean	SD	Skew	Kurtosis	Sig	Mean	SD	Skew	Kurtosis	Sig
Q1g	TISMBU	3.59	1.31	.14	-.77	.68	3.61	1.30	.12	-.76	.69
Q1h	TRHSMBU	3.29	1.52	.24	-.96	.00	3.25	1.50	.23	-.99	.01
Q2a	TSMBI	4.93	.94	-.36	.49	.55	4.95	.90	-.18	.02	.55
Q2b	TRSMBII	4.72	.99	-.74	.68	.09	4.74	.96	-.68	.60	.14
Q2c	TSMBIII	4.87	1.06	-.57	.30	.01	4.88	1.05	-.60	.45	.05
Q2d	TRSMBIV	4.59	1.06	-.32	-.04	.91	4.60	1.04	-.31	-.04	.99
Q3a	TSCAP	4.94	.96	-.50	.36	.75	4.96	.94	-.45	.29	.77
Q3b	TRUCRIT	4.23	.89	-.09	.24	.16	4.23	.86	-.15	.07	.28
Q3c	TPERF	4.60	1.04	-.46	.49	.28	4.63	1.01	-.40	.40	.19
Q3d	TRRELC	4.56	1.18	-.43	-.09	.98	4.57	1.15	-.41	-.04	.97
Q3d	TRTRU	4.71	1.13	-.35	-.19	.99	4.71	1.11	-.35	-.18	.63
Q3d	TRCOO	4.70	1.13	-.63	.30	.84	4.72	1.10	-.61	.37	.99
Q4b	TRSMJU	4.91	1.30	-.78	.60	.00	4.91	1.27	-.80	.70	.00
Q4d	TAMOT	2.61	.86	.44	.10	.96	2.61	.85	.46	.15	.93
Q5g	TAFFN	5.30	.97	-.68	.38	.00	5.31	.96	-.70	.49	.00

The *p* value tested the H$_o$ that the coefficient was equal to zero (no effect). A low *p*- value < .05 indicated Statistical Significance, leading to rejecting the H$_o$ that there were *no* outliers. Variables with low *p* values were likely to add meaningful changes to the model.

Table 5.5 Descriptive Statistics for the Vendor Sample (N$_V$)

Multivariate Outlier Analysis for the Vendor Sample (N$_V$)

Question	Construct Scale Variable	Before the Elimination of Outliers (N$_V$ = 194)					After the Elimination of Outliers (N$_V$ = 188)				
		Mean	SD	Skew	Kurtos	Sig	Mean	SD	Skew	Kurtos	Sig
Q1g	TISMBU	3.67	1.29	.01	-.88	.34	3.68	1.28	-.02	-.85	.32
Q1h	TRHSMBU	3.18	1.51	.30	-.91	.05	3.15	1.47	.30	-.91	.09
Q2a	TSMBI	4.88	1.02	-.56	.59	.86	4.92	.96	-.29	-.22	.95
Q2b	TRSMBII	4.71	1.03	-.70	.26	.90	4.74	.99	-.68	.31	.93
Q2c	TSMBIII	4.90	1.08	-.54	-.18	.00	4.91	1.07	-.56	-.07	.02
Q2d	TRSMBIV	4.66	1.10	-.25	-.24	.27	4.69	1.06	-.20	-.36	.21
Q3a	TSCAP	5.06	1.01	-.52	.11	.53	5.07	.98	-.44	-.14	.64
Q3b	TRUCRIT	4.25	.91	-.10	.52	.73	4.25	.86	-.18	.15	.88
Q3c	TPERF	4.72	1.09	-.27	.23	.13	4.73	1.06	-.22	.13	.18
Q3d	TRRELC	4.67	1.21	-.47	-.28	.90	4.67	1.18	-.44	-.30	.97
Q3d	TRTRU	4.69	1.20	-.38	-.15	.89	4.70	1.19	-.37	-.11	.90
Q3d	TRCOO	4.69	1.10	-.47	-.03	.91	4.71	1.07	-.40	-.07	.94
Q4b	TRSMJU	5.06	1.27	-.60	-.05	.00	5.06	1.24	-.63	.05	.00
Q4d	TAMOT	2.44	.89	.55	.08	.69	2.45	.87	.58	.15	.61
Q5g	TAFFN	5.34	.91	-.72	.69	.00	5.35	.89	-.78	.95	.00

Table 5.6 Descriptive Statistics for the Third-party Sample (N_TP)

Multivariate Outlier Analysis for the Third Party Sample (N_TP)

Question	Construct Scale Variable	Before the Elimination of Outliers (N_TP = 240)					After the Elimination of Outliers (N_TP = 235)				
		Mean	SD	Skew	Kurtos	Sig	Mean	SD	Skew	Kurtos	Sig
Q1g	TISMBU	3.62	1.28	.07	-.74	.97	3.64	1.28	.05	-.75	.99
Q1h	TRHSMBU	3.19	1.51	.33	-.84	.01	3.14	1.49	.33	-.88	.01
Q2a	TSMBI	5.03	.87	-.20	.30	.44	5.05	.85	-.08	.19	.38
Q2b	TRSMBII	4.84	.88	-.72	1.26	.11	4.85	.86	-.67	1.23	.14
Q2c	TSMBIII	4.95	1.00	-.39	-.01	.58	4.96	.97	-.36	.03	.38
Q2d	TRSMBIV	4.64	.99	-.34	.01	.57	4.65	.97	-.33	.07	.45
Q3a	TSCAP	4.91	.89	-.41	.20	.96	4.93	.86	-.33	.12	.98
Q3b	TRUCRIT	4.25	.89	-.06	.14	.09	4.25	.87	-.11	.10	.09
Q3c	TPERF	4.62	.99	-.78	1.01	.91	4.65	.95	-.65	.69	.69
Q3d	TRRELC	4.55	1.14	-.59	.34	.70	4.56	1.11	-.59	.43	.85
Q3d	TRTRU	4.78	1.07	-.25	-.32	.93	4.77	1.04	-.26	-.36	.63
Q3d	TRCOO	4.78	1.12	-.86	1.13	.44	4.79	1.08	-.88	1.25	.25
Q4b	TRSMJU	5.04	1.23	-.99	1.56	.00	5.03	1.23	-1.00	1.57	.22
Q4d	TAMOT	2.56	.82	.59	.54	.67	2.56	.80	.59	.57	.65
Q5g	TAFFN	5.32	1.01	-.69	.20	.00	5.34	.99	-.69	.26	.00

Table 5.7 Descriptive Statistics for the Buyer Sample (N_B)

Multivariate Outlier Analysis for the Buyer Sample (N_B)

Question	Construct Scale Variable	Before the Elimination of Outliers (N_B = 109)					After the Elimination of Outliers (N_B = 107)				
		Mean	SD	Skew	Kurtos	Sig	Mean	SD	Skew	Kurtos	Sig
Q1g	TISMBU	3.39	1.39	.53	-.44	.85	3.43	1.38	.52	-.44	.93
Q1h	TRHSMBU	3.70	1.52	-.08	-1.04	.83	3.68	1.51	-.11	-1.08	.97
Q2a	TSMBI	4.79	.89	-.05	.16	.75	4.77	.89	-.03	.22	.38
Q2b	TRSMBII	4.47	1.11	-.59	.26	.07	4.49	1.07	-.48	.07	.04
Q2c	TSMBIII	4.63	1.16	-.79	.88	.08	4.66	1.15	-.85	1.07	.07
Q2d	TRSMBIV	4.34	1.09	-.39	.08	.57	4.34	1.10	-.40	.06	.48
Q3a	TSCAP	4.81	1.00	-.68	.99	.47	4.80	1.01	-.66	.93	.36
Q3b	TRUCRIT	4.17	.85	-.20	-.05	.94	4.16	.85	-.20	-.07	.95
Q3c	TPERF	4.36	1.03	-.35	.25	.74	4.39	1.01	-.38	.44	.63
Q3d	TRRELC	4.38	1.22	-.08	-.23	.22	4.42	1.20	-.08	-.16	.13
Q3d	TRTRU	4.58	1.13	-.42	-.24	.55	4.57	1.13	.40	-.27	.29
Q3d	TRCOO	4.53	1.22	-.41	-.41	.15	4.57	1.19	-.41	-.31	.09
Q4b	TRSMJU	4.35	1.34	-.70	.15	.00	4.91	1.27	-.80	.70	.00
Q4d	TAMOT	3.00	.78	.26	.25	.76	3.00	.78	.27	.31	.97
Q5g	TAFFN	5.18	.98	-.59	.48	.01	5.19	.98	-.60	.51	.01

5.2 Testing the Reliability of the Scales

Testing the *reliability* was critical in terms of the *internal consistency* of the items that constituted the various scales. Cronbach's Alpha assumes that items are *equally* reliable within the overall scale and reveals when items deviated from the overall scale. Cronbach's Alpha was used to test internal reliability with values ranging from 0 (*no* internal reliability) to 1 (*perfect* internal reliability) (Bryman and Bell, 2015). The reliabilities were calculated for the entire refined sample (n = 530) and the three refined sub-samples.

The Appendices I18–I19 illustrates the reliability test procedure in SPSS for the *first* Business Development process phase for the entire refined sample by way of example, while Tables 5.8–5.9 contain the Cronbach's alpha values for the various scales or the Mean Inter-Correlations for scale with the minimum of two items where Cronbach's Alpha was unacceptable (< .50).

Nearly all values for *Social Media Business Usage Inclination/Hesitation* and the four identified *B2B-Business Development process phases* are within a 'good', i.e. ≥ .80 or 'acceptable', i.e. ≥ .70 range. This did not suggest the elimination of any particular items from these scales since usually, the Cronbach's Alpha values tend to be *higher* the *more* items the scales combine. Likewise, all the values of the *Performance* scale were within the 'good' range.

The situation was, however, entirely different for the scale *Usage Criteria* (TRUCRIT) which demonstrated rather weak values, i.e. ≥ .50 for the entire refined sample (.596) and two of the refined subsamples. The anticipated increase of Cronbach's Alpha was minimal (Δ = .003) for the entire refined sample (.599) for only one item in the SPSS Item-Total Statistics, relevant columns 'Corrected Item-Total Correlation' and 'Cronbach's Alpha if Item Deleted'.

The column 'Cronbach's Alpha if Item Deleted' helps to detect potential items which might be eliminated to improve the scale's reliability. Thereby, it is critical to preserving the ability of the scale to measure the theoretical concepts identified in the literature. Therefore, the preliminary consideration to shorten this scale was disregarded.

The only scale which indicated 'unacceptable' Cronbach's Alpha values (< .50) for two refined sub-samples was the *Trust* (TRTRU) scale. A further scale reduction was excluded to ensure the minimum standards of two items. In this case, the mean inter-item correlations in Table 5.9 might be more suitable.

Table 5.8 Cronbach's Alpha of the Scales

Survey Question	Construct Scale Variable	Number of Scale Items	Cronbach's Alpha for $N_T = 530$	Cronbach's Alpha for $N_V = 188$	Cronbach's Alpha for $N_{TP} = 235$	Cronbach's Alpha for $N_B = 107$
Q1g	TISMBU	6	.725	.702	.723	.766
Q1h	TRHSMBU	4	.830	.835	.839	.788
Q2a	TSMBI	7	.822	.838	.812	.791
Q2b	TRSMBII	7	.813	.817	.772	.852
Q2c	TSMBIII	7	.877	.881	.861	.894
Q2d	TRSMBIV	7	.847	.848	.828	.867
Q3a	TSCAP	6	.816	.847	.768	.837
Q3b	TRUCRIT	6	.596	.590	.593	.617
Q3c	TPERF	6	.876	.890	.864	.864
Q3d	TRRELC	2	.626	.682	.535	.696
Q3d	TRTRU	2	.518	.590	.461	.474
Q3d	TRCOO	2	.704	.618	.764	.714
Q4b	TRSMJU	3	.823	.837	.821	.775
Q4d	TAMOT	3	.767	.776	.772	.672
Q5g	TAFFN	6	.744	.694	.763	.772

< .5 Unacceptable	≥ .5 Poor	≥ .6 Questionnable	≥ .7 Acceptable	≥ .8 Good

The colour code follows the rules of thumb by George and Mallery (2003).
Preferable according to DeVellis (2016) is that the Cronbach's Alpha coefficients are ≥ .70.

Table 5.9 Mean Inter-Item Correlation for the Two-Item Scale Trust

Survey Question	Construct Scale Variable	Number of Scale Items	Mean Inter-Item Correlation $N_T = 530$	Mean Inter-Item Correlation $N_V = 188$	Mean Inter-Item Correlation $N_{TP} = 235$	Mean Inter-Item Correlation $N_B = 107$
Q3d	TRTRU	2	.362	.432	.313	.318

For constructs with less than ten items where the Cronbach's alpha coefficient is unacceptable (< .50), the Mean Inter-Item correlations for the items should be reported. However, the Mean Inter-Item correlations indicate a rather weak relationship among the two items.

The next steps consisted of conducting several factor analyses to identify the dimensional structure of the operationalised variables followed by linear regression analyses and structural equation modelling to examine the internal validity.

5.3 Optimising the Set of Scale Items with Factor Analyses

Several *exploratory factor analyses* with varimax rotation were conducted to condense the set of scale items down to a better manageable number of dimensions and to detect the underlying structure of the scales and measures. Thereby, the 0.5 factor loading criterion was applied.

While *exploratory factor analyses* (EFA) explored the potential interrelationships among a set of items, *confirmatory factor analyses* (CFA) were conducted for the model constructs to test specific hypotheses concerning the structure underlying a set of items (Pallant, 2013). CFA in Amos also served to examine the various aspects of validity.

Factor Analyses for the Antecedent:

First of all, the EFA was carried out for the theorised predictors of the 'B2B-Business Development process', i.e. the Antecedent *'Social Media Business Usage'*. Thereby, 'B2B-Business Development process' as independent variable remained sidelined because it is considered unsuitable to include predictors and outcome variables 'Business Performance' in the same factor analysis (Hair Jr et al., 2009). As was expected, the correlations between 'B2B-Business Development process' and 'Social Media Business Usage' had *mixed* impact on the extraction of the independent components (factors).

The four items of the antecedent dimension *Hesitation/Inhibition towards Social Media Business Usage* were maintained while the formerly six items of the antecedent dimension *Inclination/Intensity towards Social Media Business Usage* were reduced to four items. The eight items loaded on two factors explaining 61.9% of the variance.

Two methods were applied to rotate the factors to make them interpretable. While the *orthogonal* rotation (varimax) assumes *not correlated* factor solutions which are easier to interpret but usually less correct, the *oblique* rotation (direct oblimin) *allows correlated* factor solutions being, however, more challenging to interpret. The pursuit of both rotations ensured that the best-interpreted solution was generated being both theoretically projected and practically feasible. The varimax method grouped the items with high loadings on each of the two factors. The oblique factor analysis generated a similar outcome due to the moderate correlation between the two factors described in more detail in Appendices J1–J2.

The interpretation of both components highlighted in the table below was mostly consistent with *Social Media Business Usage* research by Bolton et al. (2013); Trainor et al. (2014); Keinänen et al. (2015).

Table 5.10 Summary of Measurement Scales for the Antecedent Dimensions

Constructs (N=530)	Mean	St. Dev.	Cronbach's Alpha	Factor Loadings (Pattern Matrix)		
				1	2	Appendix J2
Hesitation towards Social Media Bus. Usage						
RHSMBU2	3.06	1.84		.867		
RHSMBU3	3.22	1.86	.830	.829		
RHSMBU1	3.46	1.82	(4 Items)	.775		
RHSMBU4	3.28	1.84		.732		
Inclination towards Social Media Bus. Usage						
ISMBU3	4.02	2.13			.797	
ISMBU2	4.52	2.15	.739		.751	
ISMBU4	3.29	2.10	(4 Items)		.743	
ISMBU5	4.72	2.04			.643	

The two-dimensional structure of the antecedent *'Social Media Business Usage'*, i.e. *Hesitation* and *Inclination* was supported by Confirmatory Factor Analysis (CFA) see Appendices K1–K9 with the modified model resulting in GFI ≈ .97; CFI ≈ .98 and RMSEA ≈ .03 (Schreiber et al., 2006).

Factor Analyses for the Independent Variable:

The EFA for the items of the *four B2B-Business Development process phases* conducted showed that twenty-eight items loaded on five factors explained 57.3% of the variance and narrowly missed the usual 60% threshold recommended by Hair Jr et al. (2009).

Surprisingly, the interpretation and labelling of the first four factors illustrated the process phases in a *slightly different order*. While the original fourth phase became the first one, all other phases remained in the original order of the research model. This indicated that the expected outcome of the process 'Increase the number of leads and generate opportunities' moved from the end to the beginning. Additionally, a fifth factor loaded strongly on items highlighting Social Media characteristics to accelerate various B2B-Business Development process phases, e.g. 'social network and profile'. (Appendices J3–J6). Mostly, variables loaded strongly on one factor, although it has to be noted that some of the variables showed cross-loadings which relativised the interpretability. The *construct reliability* was reevaluated with the *Cronbach's alpha* test after conducting EFA. As indicated in the table below the values for all four B2B-Business Development process phase variables *exceeded* the level of .70 suggested for exploratory research. This justified the reliability of the measurements for model testing. The varimax-rotated Principal Component Analysis resulted in the extraction of five factors which did not precisely match the number of constructs in the original research model as stated above.

Table 5.11 Summary of Measurement Scales for the Independent Variable

Constructs (N = 530)	Mean	St. Dev.	Cronbach's Alpha	Factor Loadings (Pattern Matrix) Appendix J5 1	2	3	4	5
BD Phase IV								
RSMBIV3	4.71	1.37		.701				
RSMBIV2	4.58	1.38		.649				
RSMBIV5	4.93	1.42	.847	.648				
RSMBIV4	4.75	1.37	(7 Items)	.615				
RSMBIV6	4.03	1.57		.608				
RSMBIV7	4.54	1.53		.577				
RSMBIV1	4.66	1.40		.481				
BD Phase I								
SMBI4	4.89	1.26			.793			
SMBI3	4.40	1.30	.778		.769			
SMBI5	5.19	1.09	(4 Items)		.651			
SMBI6	4.60	1.52			.469			
BD Phase II								
RSMBII1	4.80	1.50				.866		
RSMBII2	4.99	1.41				.836		
RSMBII4	4.66	1.40	.816			.659		
RSMBII3	4.40	1.45	(5 Items)			.627		
RSMBII7	5.13	1.15				.429		
BD Phase III								
SMBIII3	4.52	1.39					-.799	
SMBIII2	4.93	1.44					-.710	
SMBIII4	4.78	1.40	.859				-.705	
SMBIII5	4.74	1.48	(6 Items)				-.649	
SMBIII6	4.92	1.42					-.608	
SMBIII1	5.32	1.23					-.601	
Social Media Eng.								
SMBI1	5.34	1.38	.570					-.759
SMBI2	4.98	1.32	(2 Items)					-.457

Moreover, a CFA was conducted to test the *measurement model* developed based on the pattern matrix of the EFA (Appendix J5). For *convergent validity*, several indices, i.e. *factor loadings*, *average variance extractions* and *construct reliabilities* were inspected (Appendices K22–K23) being presented here for instance of the independent variable (the four B2B-Business Development process phases).

Table 5.12 Inter-Construct Correlations in the Modified Model CFA (Extract)

	BD Phase IV	BD Phase I	BD Phase II	BD Phase III	SocMedEng
BD Phase IV	4.55/1.10/ .755/.856	.425	.552	.602	.426
BD Phase I	.652	4.77/1.01/ .476/.778	.442	.436	.612
BD Phase II	.743	.665	4.80/1.05/ .550/.816	.567	.386
BD Phase III	.776	.660	.753	4.79/1.13/ .692/.853	.339
SocMedEng	.653	.782	.621	.582	5.16/1.13/ .208/.570

Note: Below the diagonal: Inter-Construct Correlations. On the diagonal: Means/Standard Deviation (top row). On the diagonal: AVE/Construct Reliability (bottom row). Above the diagonal: Squared Inter-Construct Correlations (extract). The grey coloured AVE values violated the Rule of Thumb AVE ≥ .50, that 50% or more of the variance of the indicators should be accounted for to support Convergent Validity.

The factor loadings (standardised regression weights) in the finalised measurement model ranged from .545 to .798 with most factors loading above .700. The average variance extracted (AVE) was .550 or over for the most constructs with *two* exceptions violating the threshold of AVE ≥ .50. The construct reliabilities varied from .570 to .856 suggesting a high *internal consistency*.

The evidence for *discriminant validity* was provided by the inter-construct correlations within the confidence interval (± 2 standard errors) without considering the correlations of 1.0 (Anderson and Gerbing, 1988). Thereby, the focus was on *high* correlations between the measurement items and the specific constructs to which they related theoretically. Both, the comparisons of the *AVE* with the *squared correlations*, and *the square roots of the AVE* with the *correlations* of the specific constructs suggested for most of the constructs *discriminant validity* as evidenced in Appendix K23 (Fornell and Larcker, 1981; Hair Jr et al., 2009). The ten inter-correlations between the five constructs in the measurement model were significant, indicating *nomological validity* among the constructs (see Table 5.12 above).

The CFA outcome for the four dimensions of the B2B-Business Development process supplemented by the fifth dimension, 'Social Media Engagement' which comprised two items of the previous first Business Development process phase is reported in detail in the Appendices K9–K23.

The CFA resulted in a slightly weak *original measurement (hypothesised)* model (GFI ≈ .87; CFI ≈ .91; and RMSEA ≈ .03) as evidenced in Appendix K15.

The analysis of the modification indices (M.I.) in Appendix K16 revealed that several items were problematic which also applied to some of the factor loadings (Appendices K10–K19).

The items RSMB45 and SMB31 were earmarked for *elimination*. The model simplification resulted in a *modified* model of 22 items with a slightly better fit (GFI ≈ .90; CFI ≈ .95; and RMSEA ≈ .03) as evidenced in Appendix K21. Overall, the CFA largely confirmed the outcome of the EFA though it required refining some of the measurements. Moreover, the CFA brought about a limitation in terms of the occurrence of some convergent and discriminant validity issues.

Factor Analyses for the Moderators:

Another EFA was performed for the *two moderators* namely Social Capital (SCAP) and Usage Criteria (RUCRIT) highlighted in Table 5.13. The twelve items loaded on three factors explaining merely 54.3% of the variance when Principal Component Analyis with Varimax rotation were applied.

While all SCAP items loading undoubtedly *high* on the first factor Social Capital, the RUCRIT items were subdivided into two factors. Sociodemographics, i.e. *Gender* loaded on the second factor whereas *Ease of Use* and *Connect/Stay in touch* loaded on the third factor.

Unexpectedly, *Career Level* loaded on both factors: while LinkedIn/XING users which tended to have a higher career level loaded on the second factor, Facebook users with a lower career level loaded on the third factor (see Appendices J7–J8).

Table 5.13 Summary of Measurement Scales for the Moderators

Constructs (N = 530)	Mean	St. Dev.	Cronbach's Alpha	Factor Loadings (Pattern Matrix) 1	2	3	Appendix J8
Social Capital							
SCAP6	4.97	1.37		.794			
SCAP3	4.85	1.25		.779			
SCAP5	4.63	1.39	.816	.772			
SCAP2	4.99	1.28	(6 Items)	.728			
SCAP4	5.24	1.09		.645			
SCAP1	5.07	1.37		.550			
Usage Criteria Sociodemographic							
RUCRIT2	3.28	1.40	.571		.867		
RUCRIT1	3.90	1.67	(3 Items)		.761		
RUCRIT3	3.72	1.61			.481		
Usage Criteria Ease of Use							
RUCRIT6	5.18	1.25				.755	
RUCRIT5	4.89	1.52	.470			.679	
RUCRIT4	4.42	1.46	(3 Items)			.490	

The CFA resulted in a reasonable fit of the modified measurement model (GFI ≈ .98; CFI ≈ .98; and RMSEA ≈ .02) by condensing the Social Capital (SCAP) items from six to four and reducing both Usage Criteria (RUCRIT) dimensions, Sociodemographics and Ease of Use, from three to two items (Appendices K24–K27).

Factor Analyses of the Outcome Variable:

The EFA for the outcome variable, i.e. '*Business Performance in the narrower sense*' and '*Justification of Social Media Business Usage*', i.e. '*Business Performance in the broader sense*' resulted in the extraction of two well-defined factors explaining 66.2% of the total variance summarised in the table below.

This outcome demonstrated that the expectation to operationalise the outcome variable could be met with nine items as evidenced in Appendices J9–J10.

Table 5.14 Summary of Measurement Scales for the Outcome Variable

Constructs (N = 530)	Mean	St. Dev.	Cronbach's Alpha	Factor Loadings (Pattern Matrix) 1	2	Appendix J10
Business Performance						
PERF1	4.49	1.31		.901		
PERF2	4.68	1.25		.874		
PERF3	4.88	1.27	.876	.767		
PERF4	5.03	1.21	(6 Items)	.710		
PERF5	4.46	1.30		.624		
PERF6	4.24	1.35		.620		
Justification of Social Media Bus. Usage						
RSMJU2	5.08	1.41			.881	
RSMJU1	5.04	1.51	.823		.862	
RSMJU3	4.63	1.53	(3 Items)		.759	

The CFA which is reported in Appendices K28–K33 resulted in a *good* fit of the modified model (GFI ≈ .98; CFI ≈ .99; and RMSEA ≈ .02). The PERF measure was refined by eliminating two items, PERF1 and PERF4, from the original measurement model due to their correlations with items of other factors and their high covariances in the Modification Indices. The *convergent* and *discriminant validity* could, however, *only* be confirmed for the PERF but *not* for the RSMJU measure.

The following table provides a *summary appraisal* of the modified Two-Factor CFA Model (finalised model modification) for the Outcome Variable pointing to a model fit that was better than expected (see Appendix K33).

Table 5.15 Summary Appraisal for the Modified Finalized Two-Factor CFA (Outcome Variable)

Measure	Estimate	Threshold	Interpretation		Cutoff Criteria		
CMIN	59.360	- -	- -	Measure	Poor	Acceptable	Good
DF	48	- -	- -	CMIN/DF	> 5	> 3	> 1
CMIN/DF	1.237	Interval [1;3]	Acceptable	CFI	<.90	<.95	>.95
CFI	.997	>.95	Good	SRMR	>.10	>.08	<.08
SRMR	.025	<.08	Good	RMSEA	>.08	>.06	<.06
RMSEA	.017	<.06	Good	PClose	<.01	<.05	>.05
PClose	1.000	>.05	Good				

Factor Analyses of the Underlying Concepts:

The EFA performed for the underlying concepts 'Trust', 'Relational Commitment' and 'Cooperation' showed that all six items loaded only on the same factor explaining only 52.9% of the total variance. The correlation matrix demonstrated *moderate* correlations between the items of these three dimensions. This solution could *not* be rotated. The reason for this might be that these three theorised dimensions contained only two items each, the minimum requirements for a scale (Appendix J11).

Factor Analyses for Affinity:

Also, EFA with varimax was performed for the 'Affinity' construct consisting of six items to operationalise Affinity towards Social Media versus Adherence to Traditional Media. A two-factor solution was obtained that explained 63.8% of the variance with five items loading firmly on the first factor and only one item on the second factor (Appendices J12–J13).

The EFA of the *Motivation of using Social Media in organisations* returned a one-factor solution explaining 68.3% of the variance (Appendix J14).

Conclusions of the Factor Analyses:

The summary of the critical findings of the factor analyses revealed that *most* of the EFA analyses underpinned the conjectural anticipations. The outcome should nevertheless be considered cautiously because of the following challenges.

First of all, though the items of the B2B-Business Development process clearly loaded on one factor, it should *not* be overlooked that the respondents of this research represented either vendor, third-party or buyer companies having gained experiences partly during their professional career in related functions such as marketing, sales or procurement as well. This might have essentially influenced their response choices. Also, the relatively large sample size among third-party respondents compared to the vendor and buyer sample might have influenced this outcome.

Then, the participants also held different roles and responsibilities which might have focussed the glance on different aspects as well. Therefore, the survey stressed that the participants answered the questions from the perspective of their *current or most recent* function and/or role. Likewise, the qualitative research had already indicated that the involved executives and professionals perceived the B2B-Business Development process phases either differently or in varying order depending on their particular background and/or function as illustrated in Appendix A2.

Furthermore, the dimension, 'Social Media Engagement', was derived from two original statements from the *first Business process phase* constituting a variation of the original conceptual model.

Concerning one of the moderators, 'Usage Criteria', an overlapping area, i.e. 'Career level' became apparent which loaded on two factors. This left a slightly fragmented spectrum instead of a precise allocation and added to the complexity of the model. Also, some of the variables indicated that their contribution to the total variance narrowly failed to achieve the recommended guideline for the explained variance of >.60 by Hair Jr et al. (2009) which might diminish the meaningfulness and interpretability. Finally, specific dimensions only returned one factor with solutions that could not be rotated.

The *convergent* and *discriminant validity* assumptions were satisfied most of the time for the measurement models. Intermittent convergent and discriminant validity violations, e.g. for SocMedEng, might impair the meaningfulness of the results and limit their evidence. The detailed findings of the factor analyses can be found in the Appendices J1–J14 and K1–K33.

5.4 Testing the Hypotheses and Subhypotheses by Regression Analyses

Appendix L contains the particular outcome of the *regression analyses*. Initially, the primary hypotheses H_1 to H_{10} of the research model introduced in Chapter 3 were tested followed by the subhypotheses H_{11} to H_{16} which relate to the underlying constructs (Table 3.6,103).

Testing the primary Hypotheses H_1 to H_{10}: A series of *simple regression analyses* were conducted to test the primary hypotheses. Preliminary analyses were conducted to ensure that the assumptions of *normality, linearity, multicollinearity* and *homoscedasticity* were met. As anticipated, the research findings in Table 5.16 demonstrated that the relationships of the theorised research model were significant at the .000 significance level and *positive* or <u>negative</u> for the first four hypotheses subject to the antecedent dimensions *Inclination*/<u>Hesitation</u> *towards Social Media Business Usage*.

Table 5.16 Testing the Hypotheses H_1–H_4 using Simple Linear Regression Analyses

Hyp	Updated*		Vendor (N_V = 188)				Third Party (N_{TP} = 235)				Buyer (N_B = 107)			
	Criterion	Predictor	R^2	Beta	t	F	R^2	Beta	t	F	R^2	Beta	t	F
H_{1a}	TSMBI	TISMBU	.166	.408	6.09	37.0	.105	.324	5.22	27.3	.138	.372	4.10	16.8
H_{1b}	TSMBI	TRHSMBU	.165	-.406	-6.06	36.7	.061	-.248	-3.90	15.2	.114	-.337	-3.67	13.5
H_{2a}	TRSMBII	TISMBU	.086	.294	4.19	17.5	.074	.271	4.31	18.5	.209	.457	5.26	27.7
H_{2b}	TRSMBII	TRHSMBU	.117	-.342	-4.96	24.6	.038	-.195	-3.04	9.2	.169	-.412	-4.63	21.4
H_{3a}	TSMBIII	TISMBU	.096	.310	4.44	19.7	.109	.331	5.35	28.6	.212	.460	5.31	28.2
H_{3b}	TSMBIII	TRHSMBU	.177	-.421	-6.33	40.1	.090	-.301	-4.81	23.2	.198	-.445	-5.09	25.9
H_{4a}	TRSMBIV	TISMBU	.149	.386	5.70	32.5	.127	.357	5.83	34.0	.206	.454	5.22	27.2
H_{4b}	TRSMBIV	TRHSMBU	.161	-.401	-5.97	35.6	.094	-.307	-4.92	24.2	.131	-.362	-3.97	15.8
H_{4c}	SocMedEn	TISMBU	.127	.356	5.20	27.0	.161	.402	6.70	44.8	.152	.390	4.34	18.9
H_{4d}	SocMedEn	TRHSMBU	.198	-.445	-6.78	45.9	.121	-.347	-5.65	31.9	.088	-.296	-3.18	10.1

*After scale refinement by EFA and CFA. Level of Significance: .000 (p < .0005).

H4c–H4d was <u>not</u> part of the original research model. SocMedEn = Social Media Engagement was derived from two items of TSMBI.

It was apparent that the *explained variance (R^2)* for the *B2B-Business Development process phases* differed for the predictors and it was foreseeable that discrepancies between vendor, third-party and buyer sample existed. In terms of the predictor *Inclination towards Social Media Business Usage*, the R^2-value for the 1st phase was *highest* among vendors (.166), while this was the case for the 3rd phase (.212) in the buyer sample. In contrast, the *highest R^2*-value among the third-party respondents was *noticeable* for the 4th phase (.127).

With regards to the predictor *Hesitation towards Social Media Business Usage*, the *maximum R^2*-value was reached in the 3rd phase for both, vendors (.177) and buyers (.198). For third-party respondents, the *highest R^2*-value was identified in the 4th phase (.094).

Overall, the R^2-values identified in the first four hypotheses were rather sobering. Since the opinions on what constituted adequate R^2-values varied among scholars, the R^2-values in Table 5.18 could have been shown in a better light by following the guidelines of Cohen (1988) − .02 (weak), .13 (moderate), and .26 (substantial). Nonetheless, the suggestions by Hair et al. (2011); Hair Jr et al. (2013) ≥ .25 (weak), ≥ .50 (moderate) and ≥ .75 (substantial) seemed more realistic in a marketing related research setting. Subsequently, all R^2-values were considered as 'weak' and even more disappointing than initially had been expected.

Originally, the hypotheses H_5–H_6 pertained to the assumed moderators, *Social Capital* and *Usage Criteria* of the research model. A series of *moderator analyses*, i.e. multiple regression analyses with linear interaction terms was conducted to determine whether the relationship between *Business Performance* (continuous dependent variable) and the *B2B-Business Development phases* (continuous independent variable) was modified (strengthened) by *Social Capital* and *Usage Criteria* (dichotomous moderators). The moderators were re-coded into *dummy variables* consisting of two groups labelled *lower* and *higher* levels. In particular, the evidence of multicollinearity and non-statistically significant R^2-change values ($p ≥ .007$) led to the problem that *no* moderator effects were found. This rendered the interaction terms practically negligible (Appendices L1–L4). The alternative idea to consider *Social Capital* and *Usage Criteria* as mediators were dismissed at this point for the following reasons. Firstly, the relationship between *B2B-Business Development process phases* and *Business Performance* was demonstrable at this time without these variables. Secondly, though in practice, B2B-Business Development process phases are designed and aligned to achieve a particular performance target, the responsibility for activity/media choices remains often with the individual B2B-Business Development executive. Yet, as part of the SEM, this matter will be discussed by examining whether both variables, *Social Capital* and *Usage Criteria*, might mediate the above-mentioned relationship.

To determine whether *Social Capital and Usage Criteria* might still be of relevance towards Business Performance (dependent variable) additional simple regression analyses were run for both continuous scales as illustrated in the following table. Instead of assuming the variables as moderators, TSCAP and TRUCR were considered to be individual predictors (covariables) towards the dependent variable *Business Performance* in the *narrow* sense (TPERF) and *broader* sense (TRSMJU) as demonstrated in Table 5.17.

Table 5.17 Testing the Hypotheses H_5–H_6 using Simple Linear Regression Analyses

Hyp	Updated* Criterion	Predictor	Vendor (N_V = 188) R²	Beta	t	F	Third Party (N_{TP} = 235) R²	Beta	t	F	Buyer (N_B = 107) R²	Beta	t	F
H5aP	TPERF	TSCAP	.469	.684	12.81	164.0	.310	.557	10.23	104.6	.368	.606	7.82	61.1
H5bP	TRSMJU	TSCAP	.311	.558	9.17	84.0	.198	.445	7.58	57.5	.212	.460	5.31	28.2
H6aP	TPERF	TRUCRSD	.006	.077	1.05	1.1	.009	.094	1.44	2.1	.002	.042	.44	.2
H6bP	TRSMJU	TRUCRSD	.008	.090	1.24	1.5	.002	.046	.70	.5	.000	.001	.01	.0
H6cP	TPERF	TRUCREU	.045	.211	2.95	8.7	.095	.308	4.94	24.4	.078	.279	2.98	8.9
H6dP	TRSMJU	TRUCREU	.026	.162	2.24	5.0	.056	.236	3.71	13.8	.016	.128	1.32	1.7

*After scale refinement by EFA and CFA. Level of Significance: .000 (p < .0005) with the exception of H5aP, H6bP, H6dP** with p > .05.

**H6dP indicated for Third Party p < .0005. H5P, H6P, and H6P were not part of the original research model in form of Predictors (P). TSCAP = Social Capital (continuous scale), TRUCRSD = Usage Criteria Sociodemographic (continuous scale), TRUCREU = Usage Criteria Ease of Use (continuous scale), TPERF = Business Performance in the narrow sense refers to the items in Q3c, and TRSMJU = Business Performance in the broader sense refers to the items in Q4b.

For the vendor group, *Social Capital* and *Usage Criteria (Ease of Use)* statistically significantly predicted *Business Performance in the narrower sense* (TPERF), F (1, 186) = 163.96, p < .0005 and F (1, 186) = 8.69, p < .0005. This also held true for the third-party and buyer samples. Likewise, *Social Capital* statistically significantly predicted *Business Performance in the broader sense* (TRSMJU), F (1, 186) = 84.03, p < .0005).

However, the results for *Usage Criteria (Sociodemographics)* respectively *Usage Criteria (Ease of Use)* were mostly not statistically significant (p > .05). The effect size of the R^2-values proved rather 'weak' in all three samples.

The next set of hypotheses, H_{7a1}–H_{10a1}, shown in Table 5.18, reflected relationships of the theorised model and indicated statistical significance at the .000 significance level with projected positive values.

Table 5.18 Testing the Hypotheses H_7–H_{10} using Simple Linear Regression Analyses

Hyp	Updated* Criterion	Predictor	Vendor (N_V = 188) R²	Beta	t	F	Third Party (N_{TP} = 235) R²	Beta	t	F	Buyer (N_B = 107) R²	Beta	t	F
H7a1	TPERF	TSMBI	.308	.555	9.092	82.7	.295	.543	9.878	97.6	.398	.631	8.336	69.5
H8a1	TPERF	TRSMBII	.345	.588	9.905	98.1	.252	.502	8.858	78.5	.519	.721	10.651	113.5
H9a1	TPERF	TSMBIII	.454	.674	12.447	154.9	.419	.647	6.647	168.2	.511	.715	10.485	109.9
H10a1	TPERF	TRSMBIV	.484	.696	13.216	174.7	.410	.640	12.714	161.6	.446	.668	9.202	84.7
H10b1	TPERF	SocMedEn	.311	.557	9.154	83.8	.161	.402	6.693	44.8	.104	.323	3.494	12.2
H7a2	TRSMJU	TSMBI	.232	.482	7.495	56.2	.193	.439	7.455	55.6	.133	.365	4.015	16.1
H8a2	TRSMJU	TRSMBII	.249	.499	7.853	61.7	.209	.457	7.841	61.5	.277	.527	6.348	40.3
H9a2	TRSMJU	TSMBIII	.419	.647	11.586	134.2	.289	.538	9.732	94.7	.323	.568	7.079	50.1
H10a2	TRSMJU	TRSMBIV	.351	.592	10.021	100.4	.300	.548	9.987	99.7	.277	.526	6.344	40.2
H10b2	TRSMJU	SocMedEn	.230	.480	7.461	55.7	.135	.368	6.042	36.5	.011	.104	1.070	1.1

*After scale refinement by EFA and CFA. Level of Significance: .000 (p < .0005) with the exception of H10b2 (p > .05)

H10b1 and H10b2 were not part of the original research model. SocMedEn = Social Media Engagement was derived from two items of TSMBI. TPERF (TRSMJU) = Business Performance in the narrow (broader) sense.

It was demonstrated that the *explained variance* (R^2) of Business Performance *varied considerably* within the individual B2B-Business Development process phases.

It was comprehensible that the highest R^2-value among buyers was found in the 2nd phase (.519) being the most critical phase for buyers compared to third-parties in the 3rd phase (.419) and vendors in the 4th phase (.484). It should be positively noted that some of the R^2-value results reached the 'moderate' ($\geq$ .50) level in particular in the buyer group. The only exception was Hypothesis H_{10b1} with remarkable 'weak' R^2-values in the third-party (.161) and buyer group (.104). The reason for this outcome might be that just two items operationalised the scale *Social Media Engagement* (SocMedEng) established by the EFA and CFA.

Equally, the *simple linear regression* identified the hypotheses H_{7a2}–H_{10a2} for the four B2B-Business Development process phases of the *theorised model* as positive and statistically significant at the .000 significance level. Only H_{10b2} was found to be *not* significant as already set out above. Of note again, the rather low R^2-value levels, especially for the *B2B-Business Development process phases I and II*.

Moreover, *hierarchical (sequential) multiple regression analysis* was performed to determine whether the successive addition of control measures such as the individual Business Development process phases would improve the prediction of the Business Performance level after controlling for the initial influence of the antecedent dimensions, i.e. *Inclination towards Social Media Business Usage*.

Table 5.19 Hierarchical Multiple Regression predicting Business Performance I. (N_V = 188)

Variable (Label)	Dependent Variable: TPERF (Business Performance in the narrow sense)					
	Model 1		Model 2		Model 3	
	B	ß	B	ß	B	ß
Constant	4.725**		.375		-.203	
TISMBU (Inclination)	.168**	.246**	.032	.047	.044	.065
TRHSMBU (Hesitation)	-.220**	-.306**	-.017	-.024	-.015	-.021
TSMBI (BD Phase I)			.132*	.132*	.068	.068
TRSMBII (BD Phase II)			.119*	.124*	.119*	.123*
TSMBIII (BD Phase III)			.229**	.239**	.175*	.183*
TRSMBIV (BD Phase IV)			.318**	.320**	.239**	.240**
SocMedEn (Engagem.)			.091	.104	.039	.045
TSCAP (Social Capital)					.324**	.300**
TRUCRSD (*SocDem*)					-.054	-.058
TRUCREU (*Ease of Use*)					.057	.052
TRUCR (Usage Criteria)						
R^2	.221		.615		.670	
F	26.27**		41.12**		35.98**	
ΔR^2	.221		.394		.055	
ΔF	26.27**		36.87**		9.85**	

Note: N_V = 188 (Vendor Sample). *$p <$ .05, **$p <$ .001.

As can be seen from Table 5.19 for the vendor sample, both dimensions of the antecedent were entered at Step 1, explaining 22.1% of the variance in *Business Performance in the narrower sense* (TPERF).

After including the *B2B-Business Development process phases I–IV* and *Social Media Engagement* the total variance explained by the model at Step 2 reached 61.5%, *F* (7, 180) = 41.12, *p* < .001.

The five control measures explained an additional 39.4% of the variance in Business Performance (TPERF), after controlling for *Inclination and Hesitation towards Social Media Business Usage*, R^2 change = .394, *F* change (5, 180) = 36.87, *p* < .001. The total variance explained by the model as a whole reached 67.0%, *F* change (3, 177) = 9.85, *p* < .001 whereby the two additional control measures explained a rather small portion (5.5%) of the variance. However, only for a few variables (*B2B-Business Development process phases II–IV* and *Social Capital*), statistical significance could be upheld with *Social Capital* recording an impressive Beta value (*ß* = .300, *p* < .001).

Another *hierarchical multiple regression* was run for the *Business Performance level in a broader sense* (TRSMJU) which revealed a comparable outcome as illustrated in Table 5.20.

Table 5.20 Hierarchical Multiple Regression predicting Business Performance II. (N$_V$ = 188)

Hierarchical Multiple Regression predicting Business Performance

| Variable (Label) | Dependent Variable: TRSMJU (Business Performance in a broader sense) | | | | | |
| | Model 1 | | Model 2 | | Model 3 | |
	B	ß	B	ß	B	ß
Constant	4.639**		.675		.273	
TISMBU (Inclination)	.272**	.339**	.164	.205*	.174**	.217**
TRHSMBU (Hesitation)	-.226**	-.268**	-.035	-.042	-.034	-.040
TSMBI (BD Phase I)			.059	.050	.004	.003
TRSMBII (BD Phase II)			.051	.045	.046	.041
TSMBIII (BD Phase III)			.416**	.368**	.379**	.336**
TRSMBIV (BD Phase IV)			.204*	.174*	.142	.121
SocMedEn (Engagem.)			.057	.056	.018	.018
TSCAP (Social Capital)					.256*	.201*
TRUCRSD (*SocDem*)					-.010	-.009
TRUCREU (*Ease of Use*)					.010	.008
TRUCR (Usage Criteria)						
R²	.267		.527		.549	
F	33.77**		28.60**		21.51**	
ΔR²	.267		.259		.022	
ΔF	33.77**		19.70**		2.89*	

Note: N$_V$ = 188 (Vendor Sample). *p< .05, **p <.001.

The total variance explained by the entire model was considerably smaller 54.9%, *F* change (3, 177) = 2.89, *p* < .05. This might be due to the smaller number of items, i.e. three statements in the scale TRSMJU. The remaining multiple regression analyses for the third-party and buyer samples did not lead to any major discrepancies, Appendix L5–L6.

It should be noted that the assumptions of *linearity*, *homoscedasticity* and *normality* were fulfilled. Also, amongst the constructs, *no* evidence of *multicollinearity* was encountered, as assessed by tolerance values exceeding 0.1. A *non-violation* of these assumptions was critical to interpreting the outcome of the multiple regression analyses.

It could be evidenced that amongst the samples most of the theorised constructs contributed to the explained variance (*accumulated* R^2) except *SocMedEng*, *TRUCRSD* and *TRUCREU* (the both Usage Criteria dimensions) being *not* statistically significant as evidenced in Appendices L7–L8.

Overall, the comprehensive model of *Inclination/Hesitation towards Social Media Business Usage*, *B2B-Business Development process phases*, and *Social Capital* for *Business Performance in the narrow sense* (TPERF) (Model 3) as illustrated in Table 5.21 for the total sample n = 530 was statistically significant with R^2 = .624, F (10, 519) = 86.216, *p* < .0005, adjusted R^2 = .617.

Table 5.21 Hierarchical Multiple Regression predicting Business Performance I. (N_T = 530)

Variable (Label)	Model 1		Model 2		Model 3	
	B	ß	B	ß	B	ß
Constant	4.533**		.594*		.163	
TISMBU (Inclination)	.158**	.248**	.013	.020	.014	.023
TRHSMBU (Hesitation)	-.171**	-.255**	-.029	-.044	-.035	-.052
TSMBI (BD Phase I)			.148**	.148**	.100*	.100*
TRSMBII (BD Phase II)			.139**	.145**	.125**	.131**
TSMBIII (BD Phase III)			.258**	.274**	.191**	.203**
TRSMBIV (BD Phase IV)			.279**	.287**	.239**	.246**
SocMedEn (Engagem.)			.033	.037	.009	.011
TSCAP (Social Capital)					.257**	.239**
TRUCRSD (*SocDem*)					-.015	-.017
TRUCREU (*Ease of Use*)					.030	.030
TRUCR (Usage Criteria)						
R^2	.186		.582		.624	
F	60.16**		106.41**		86.22**	
ΔR^2	.186		.402		.036	
ΔF	60.16**		101.88**		16.70**	

Note: N_T = 530 (Refined Total Sample). *p < .05, **p < .001.

The addition of the four *Business Development phases I–IV* to the prediction of *Business Performance in the narrow sense* (TPERF) (Model 2) led to a statistically significant *increase in R^2* of .402, F (5, 522) = 101.880, *p* < .0005. The addition of *Social Capital* to the prediction of *Business Performance in the narrow sense* (TPERF) (Model 3) also resulted in a statistically significant increase in R^2 of .036, F (3, 519) = 16.696, *p* < .0005.

Similarly, the comprehensive model of *Inclination/Hesitation towards Social Media Business Usage*, *B2B-Business Development process phases*, and *Social Capital* for *Business Performance in the broader sense* (TRSMJU) for the total sample n = 530 deemed to be statistically significant.

The only flaw was that the *B2B-Business Development process phase I* did not really make additional contributions to the explained variance (Appendix L9).

Conclusions of the Regression Analyses for H_1 to H_{10}:

Beginning with the antecedent, it was apparent that the first dimension of the antecedent *Inclination towards Social Media Business Usage* generally had a *positive* effect on the B2B-Business Development process phases I–IV. In fact, the *positive* contributions to the explained variances (R^2) to the B2B-Business Development process phases varied among the samples illustrated below. For example, for vendors, the *Inclination towards Social Media Business Usage* would affect primarily the BD process phase I positively. For buyers, *inclination* influences mostly BD process phase III positively while least affecting phase I.

Table 5.22 Contributions to the Explained Variance by Inclination (Antecedent)

R Square Value *Inclination towards Social Media Business Usage*	BD Process Phase I. *Identify + Prospect Potential Buyers*	BD Process Phase II. *Share Information + Maintain Knowledge*	BD Process Phase III. *Build Social Networks + Manage Existing Relations*	BD Process Phase IV. *Increase Number of Leads + Generate Opportunities*
Vendor (N_V = 188)	Highest (Max)	Lowest (Min)	Second Lowest	Second Highest
Third Party (N_{TP} = 235)	Second Lowest	Lowest (Min)	Second Highest	Highest (Max)
Buyer (N_B = 107)	Lowest (Min)	Second Highest	Highest (Max)	Second Lowest
Total (N_T = 530)	Second Highest	Lowest (Min)	Second Lowest	Highest (Max)

On the other end, in line with expectations, the second dimension *Hesitation towards Social Media Business Usage* indicated an *adverse* effect on the B2B-Business Development process phases. It was noticeable again that the *negative* contribution of *Hesitation* was different according to the process phases in the samples as shown in the following table. For example, for both, vendors and buyers, the *hesitation to use social media for business purposes* would impact *mostly* the BD process phase III negatively.

Table 5.23 Contributions to the Explained Variance by Hesitation (Antecedent)

R Square Value *Hesitation towards Social Media Business Usage*	BD Process Phase I. *Identify + Prospect Potential Buyers*	BD Process Phase II. *Share Information + Maintain Knowledge*	BD Process Phase III. *Build Social Networks + Manage Existing Relations*	BD Process Phase IV. *Increase Number of Leads + Generate Opportunities*
Vendor (N_V = 188)	Second Highest	Lowest (Min)	Highest (Max)	Second Lowest
Third Party (N_{TP} = 235)	Second Lowest	Lowest (Min)	Second Highest	Highest (Max)
Buyer (N_B = 107)	Lowest (Min)	Second Highest	Highest (Max)	Second Lowest
Total (N_T = 530)	Second Lowest	Lowest (Min)	Highest (Max)	Second Highest

Since both aspects of the antecedent differed in their contribution, it is recommendable to consider a *differentiated Social Media Business Usage approach* within the various process phases and to also tailor it to the targeted function during the particular process phases.

As a conclusion, the hypotheses, H_1–H_4 were apparently confirmed by simple linear regressions and hierarchical multiple regression analyses.

As stated earlier, the original hypotheses, H_5 and H_6 for the moderators, *Social Capital* and *Usage Criteria*, were usually *not* supported as evidenced by the moderator analyses.

For example, *Social Capital* did *not* moderate the effect of the *first B2B-Business Development process phase* on *Business Performance*, as highlighted by a statistically *not* significant increase in total variation explained of .4% $F (1, 231) = 1.355$, $p = .246$), blue/grey coloured area in Appendix L1. The same was true for the other B2B-Business Development process phases as the tables in Appendices L1–L4 illustrate.

This led to the conclusion that H_5 and H_6 were *not* confirmed in their *original* form.

It was decided to conduct additional simple linear regression analyses to avoid overlooking the practical importance of *Social Capital* and *Usage Criteria* as potential predictors of *Business Performance*. While a statistically significant contribution to *Business Performance could* be confirmed for *Social Capital*, the expected contribution for *Usage Criteria* failed to materialise expressed by relatively low Beta weights and the lack of statistical significance. Likewise, a hierarchical multiple regression analysis underlined the importance of *Social Capital* to contribute to *Business Performance* if it was considered as an additional predictor variable.

The simple regression analyses for the hypotheses, H_7–H_{10}, about the relationships between *the four B2B-Business Development process phases* and *Business Performance* were positively confirmed. The Beta weights, representing the unique contribution of each variable excluding any overlapping effects, pointed towards moderately strong correlations for all subsamples. For example, in the vendor sample, the Beta weights ranged from .555 to .696. However, the fifth predictor, *Social Media Engagement* (SocMedEng) resulting from the EFA and CFA was *not* confirmed.

Another distinctive feature pertained to the definition of the *Business Performance* scale. The original scale *Business Performance in the narrow sense* was extended by the dimension of *Business Performance in the broader sense*. The latter construct examined the justification of Social Media in terms of potential performance achievement.

Likewise, the hierarchical multiple regression analysis used to ascertain the significance of the *four B2B-Business Development process phases predictors* suggested confirming the hypotheses, H_7–H_{10} based on the total sample (n = 530). But, for *Business Performance in the broader sense*, this result had to be put into relation because the first predictor (*BD process phase I*) was statistically *not* significant (Appendix L9).

Testing the Sub-Hypotheses H_{11} to H_{16}:

Simple regression analyses were also conducted to test the additional hypotheses listed in Appendices L10–L11. The outcome sustained most of the sub-hypotheses, H_{11} to H_{16} as shown in Appendix L12.

With the exception of H_{11a} *Reliability* (SMQREL) which showed a weak value for $ß \leq .299$, the results for the sub-hypotheses H_{11b}–H_{11d} indicated consistently practical relevance.

Usefulness (SMQUSF), *Accessibility* (SMQACC) and *Usability* (SMQUSA) were quite strong predictors of *Social Media Quality* (SMQ). For example, Accessibility, $ß = .843$ represented the most reliable predictor of *Social Media Quality* for the buyer sample, while for vendors (third-party) *Usability* reached the highest $ß = .845$ (.823).

The results for H_{12} showed that the *Inclination towards Social Media Business Usage* (TISMBU) depended in particular for buyers on *Social Media Quality* ($ß = .420$) compared to third-party ($ß = .408$) and vendors ($ß = .390$).

Contrary to initial expectations in the literature, the predictors of H_{13a}–H_{13b}, *Gender* (SMBUIGD) and *Generation* (SMBUIGE) did *not* reveal any statistical significance in their impact on *Social Media Business Usage Intensity* (TSMBUI). H_{13c}, *Career Level* (SMBUICL) appeared at first glance impressive because of the statistical significance. However, the minimal $ß$ values throughout the subsamples expressed doubts about the practical meaningfulness.

Likewise, though the sub-hypotheses H_{13d}–H_{13g}, e.g. *Social Media Quality, Playfulness, Savviness/Eustress, Satisfaction* to predict *Usage Intensity* were statistically significant these findings have to be seen with the caveat that the regression coefficients values were minor. This observation was somewhat disappointing for the vendor sample because the low $ß$ values questioned the practical relevance.

The sub-hypotheses H_{14}–H_{16} were primarily confirmed with moderate and substantial values of the regression coefficients of the predictors. Their $ß$ values ranged from .537 to .923 with statistical significance in the vendor sample similar to the other two subsamples. *Interaction Ties* (SCAPTIE) was the most potent predictor ($ß \geq .826$) in all three subsamples which was backed by the findings of the pilot study.

Likewise, *Shared Values* (SCAPSHV) and Trust (SCAPTRU) revealed high $ß$ values. The lowest ($ß \geq .548$) values in all samples were recorded for *Self Disclosure* (SCAPSDI). These findings corresponded essentially with some themes in the pilot study.

The outcome of the simple regression analysis also supported H_{15} which tested the predictors of *Business Performance* (TPERF), i.e. *Efficiency* (PERFEFFI) and *Effectiveness* (PERFEFFE).

The predictors indicated strong $ß$ values, which tended to be stronger for PERFEFFI in all subsamples than for PERFEFFE. This was plausible due to the slightly higher representation of EFFI statements in the TPERF scale.

Finally, testing H_{16a}–H_{16b} demonstrated that the disaggregation of *Cooperation* (DV), *Relationship Commitment* and *Trust* (Predictors) resulted in a statistically significant contribution to the total explained variance of *Cooperation*. In addition to the simple linear regressions, a hierarchical multiple regression analysis was conducted (Appendix L12–13).

Though the full model indicated statistical significance, the overall variance explained was only marginally higher (R^2 = 53.1%) compared to the previous conducted EFA discovering that the construct *Cooperation*, *Relationship Commitment* and *Trust* explained 52.1% of the total variance (one factor-solution) (Appendix J11).

The simple linear regression analyses revealed that *Cooperation* (COOP) exhibited higher regression coefficients for *B2B-Business Development process phases III–IV* than for the initial two phases with the highest scores in the third phase (Appendix L12). This finding was expected since *Cooperation* tends to intensify during the later phases of the business development cycle (Request For Proposal process). Likewise, the hierarchical multiple regression demonstrated significance for *Cooperation* predicting ultimately *Business Performance* with a convincing $ß$ value of .649 for the total sample (Appendix L14).

Surprisingly, nearly all results of the sub-hypotheses revealed practical and statistical usefulness mainly because the assumptions (e.g. collinearity) were *not* violated.

Conclusions of the Regression Analyses for H_{11} to H_{16}:

Most of the Hypotheses H_{11} to H_{16} were confirmed. The conceptualisation of the various constructs has to be seen with respect to some of the complex formulated statements of the subdimensions. This complexity involved the risk of a particular redundancy. To counteract this, the combination of factor analyses, linear regression analyses and hierarchical multiple regression analyses was helpful in distilling these subdimensions.

H_{11a}–H_{11d} were confirmed both from a practical and statistical point of view. The operationalisation of the *Social Media Quality* dimension could be described mainly as successful based on the high $ß$ values.

H_{12} was confirmed statistically, but the $ß$ value of *Social Media Quality* predicting the *Inclination* was below expectations ($ß$ ≤ .420). The same was also true for *Social Media Usage Intensity* (H_{13d}) with $ß$ values of ≤ .406.

The next set of hypotheses H_{13a}–H_{13c} relating to *Social Media Business Usage Intensity by Gender, Generation and Career* showed rather poor results.

Though it was apparent that *Generation* and *Career* related negatively to *Social Media Business Usage Intensity*, it was disappointing that *no* statistical significance could be identified as expected on the basis of the literature. Therefore these sub-hypotheses were *not* confirmed.

H_{13e}–H_{13g} relating to *Playfulness*, *Savviness/Techno-Eustress* and *Satisfaction* were confirmed. It must, however, be critically stated that despite statistical significance the *ß* values were rather weak with the positive exception of the buyer sample. Consequently, their practical meaningfulness remained instead confined.

Conversely, all the hypotheses H_{14a}–H_{14f} around *Social Capital* were statistically significant. The high *ß* values (.543 to .923) across the subsamples also allowed a clear statement from a practical viewpoint.

Likewise, the hypotheses H_{15}–H_{16} were confirmed. The operationalisation of the *Business Performance* dimension in *Efficiency* and *Effectivity* proved to be appropriate. On the downside, the differences in the *ß* values between the subdimensions were considered as critical. Though the approach allowed for particular flexibility, the fact that some of the statements were overlapping might distort the meaningfulness of the scale *Efficiency*. Moreover, the different number of statements shaping the subdimensions COOPRELC and COOPTRU in H_{16a}–H_{16b} could raise objections in terms of impairing the meaningfulness.

Particularly encouraging was the fact that the contribution of the vast majority of the hypotheses was twofold. The hypotheses were confirmed in terms of statistical significance, and the firm values of the predictors also indicated practical, relevant outcomes.

However, as mentioned before in Chapter 3,97 most of these concepts – although being presented and analysed – were ultimately either encapsulated in *Social Capital* or *Usage Criteria* or excluded to ensure a parsimonious research approach.

5.5 Conducting Structural Equation Model Analyses

The crowning touch of this study was represented by the Structural Equation Model testing the proposed research model and its hypotheses on the highest level. In particular, the preliminary simple linear regression analyses for the individual constructs laid the foundation, upon which the hierarchical multiple regression analyses were built. With the Structural Equation Modelling, this research evolved from an initially more detailed to a more comprehensive analysis level. Thereby, the purpose of the Structural Equation Model was to simultaneously analyse the multiple equations of the research model. The results of the regression analyses were perceived as forerunners/building blocks to arrive from a baseline to the highest level of analysis. Pursuing both approaches and perspectives ensured that the research results were reliably interpretable.

Testing different versions of the Research Model:

A curve estimation for all the relationships in the research model determined that all relationships were sufficiently linear to be tested using a covariance-based Structural Equation Model algorithm. Heteroscedasticity was expected because the model was moderated with multigroup moderators. A path model was created to show the influences of the dimensions of Social Media Business Usage (Inclination and Hesitation) on the B2B-Business Development process phases and ultimately on Business Performance.

The following steps (coloured in blue) signpost the different versions of the research model.

Starting Point: The Comprehensive Structural Equation Model for the Total Sample

The *Comprehensive* Structural Equation Model was the *starting model* to be tested. This model version illustrated in Figure 5.4,169 resembled in large parts the conceptual model which was developed based on the consensus of literature review and pilot study.

Moreover, the *Comprehensive* Structural Equation Model considered the underlying refined measures of the CFA for the total sample $N_T = 530$.

This model showed that the findings from the hierarchical multiple regression analyses were upheld to the highest part. However, the inclusion of the two dimensions of *Usage Criteria*, Ease of Use (TRUCREU) and Sociodemographics (TRUCRSD) was questionable as previously detected in the regression analyses. Conversely, the influence of Social Capital was clearly recognisable.

The goodness-of-fit statistics of the *Comprehensive* Structural Equation Model indicated that all values were *outside* the recommended benchmarks. The postulated model of causal structure did not seem to fit the model data well (CFI = .81; GFI = .70; RSMEA = .24) as evidenced in the Summary Appraisal contained in Table 5.24,170.

Figure 5.4 Testing the *Comprehensive* Model Version (Total Sample: N_T = 530)

For purposes of clarity, the double headed arrows representing the correlations among the independent factors and the measurement errors for the items were not included in the hypothesized model above. The grey coloured ellipses represent the model variables and the rectangular boxes the underlying items/statements resulting from the CFA. The dark blue coloured arrows show the direct effects. The lighter blue/purple coloured arrows represent the indirect effects via the initially assumed moderators Usage Criteria and Social Capital. The dotted lines represent the non-significant path values (p > .05). The structural paths of the model contain the standardised regression coefficients.

Table 5.24 Summary Appraisal for the *Comprehensive* Model Version (Total Sample: N_T = 530)

Index/Measure (N_T = 530)	Benchmark	Value	Comment
CMIN	N/A	398.31	The sample size is N_T of 530 >> 250.
DF	N/A	13	The ideal sample size is (N/DF) ≈ 41.
CMIN/DF = Norm Chi-Square	[1.00 to 5.00]	30.64	The value is far too large.
GFI = Goodness-of-Fit Index	≥ .92	.70	The value is below the recommendation.
AGFI = Adjusted Goodness-of-Fit Index	≥ .90	.56	The value is clearly below the recommendation.
NFI = Normed Fit Index	≥ .95	.80	The value is too small.
CFI = Comparative Fit Index	≥ .92	.81	The value is too low for a well-fitted model.
RMSEA = Root Mean Squared Error	≤ .07	.24	The value indicates a poor model fit.

First Modification: The Simplified Structural Equation Model for the Total Sample

Consequently, to arrive at an *acceptable* fit of the conceptual model, the *comprehensive* model was *simplified* as depicted below taking utmost account of the initial theoretical assumptions. The *simplified* model version ensured that a suitable model fit was achievable without compromising the underpinning concepts being tested (Hair Jr et al., 2009).

Figure 5.5 Testing the *Simplified* Model Version (Total Sample: N_T = 530)

The grey coloured ellipses represent the model variables. The dark blue coloured arrows show the direct effects. The purple coloured arrows represent the indirect effects via the assumed moderator Social Capital. The light blue coloured arrow indicates that SocMedEng has no direct impact on Business Performance. The dotted lines represent the non-significant path values (*p* > .05). The structural paths of the model contain the standardised regression coefficients.

This implied that both dimensions of *Usage Criteria* (TRUCRSC) and (TRUCREU) had to be taken out of the *comprehensive model* because of their *minor* impact in the hierarchical multiple regression analysis and SEM while maintaining *Social Capital*.

Though the goodness-of-fit statistics of the *Simplified Model* improved as evidenced in Table 5.25, this model version of the causal structure fell still short of expectations regarding an acceptable fit (CFI = .83, GFI = .89; RSMEA = .28).

Table 5.25 Summary Appraisal for the *Simplified* Model Version (Total Sample: N_T = 530)

Index/Measure (N_T = 530)	Benchmark	Value	Comment
CMIN	N/A	343.82	The sample size is N_T of 530 >> 250.
DF	N/A	8	The ideal sample size is (N/DF) ≈ 66.
CMIN/DF = Norm Chi-Square	[1.00 to 5.00]	42.98	The value is far too large.
GFI = Goodness-of-Fit Index	≥ .92	.89	The value has improved and is almost acceptable.
AGFI = Adjusted Goodness-of-Fit Index	≥ .90	.52	The value has deteriorated and is still below the recommendation.
NFI = Normed Fit Index	≥ .95	.82	The value has improved but is still too low.
CFI = Comparative Fit Index	≥ .92	.83	The value has improved but is still too low for a well-fitted model.
RMSEA = Root Mean Squared Error	≤ .07	.28	The value has deteriorated and indicates a poor model fit.

Nevertheless, these results left room for hope, given the fact that the model complexity and larger sample size allowed to interpret the recommended guidelines with some leeway.

Hair Jr et al. (2009,672) admonish that the benchmarks represented "guides for usage, not rules that guarantee a correct model" which means that they ultimately will not make or break a model. These benchmarks supported instead of identifying which theoretical conjectures were confirmed or not. It should not be forgotten that practical considerations also came into play.

The *Simplified* Structural Equation Model revealed that S*ocMedEng* had practically *no* impact on Business Performance. Thus, it was decided to scale down the *simplified* model by eliminating *SocMedEng,* a construct which included only two items, SMBI1 and SMBI2. Instead, both *SocMedEng* items were *reassigned* to the Antecedent *Social Media Usage Inclination* for the following reasons:

Firstly, both the hierarchical multiple regression analyses and the SEM indicated that *SocMedEng* had *no* real predictive ability on *Business Performance*.

Secondly, the items of *SocMedEng* had been hived off the first Business Development process phase as the result of EFA and CFA. Hair Jr et al. (2009) regard the use of constructs with three or fewer items to bolster the model fit as malpractice since the improvement of the reliability of the construct adversely affects its theoretical domain and validity.

Thirdly, emphasising the importance of Social Media in the antecedent took into account that the first B2B-Business Development process phase was purged from redundancies.

As realised in previous studies (Rodriguez et al., 2012) the approach to view Social Media isolated as an independent concept affecting sales processes is legitimate. Lastly, the predictive ability of Inclination towards Social Media Business Usage was strengthened.

Second Modification: The Streamlined Structural Equation Model for the Total Sample

The modification of the *simplified* model led to the *streamlined model version* in Figure 5.6. The *streamlined* model highlighted the *integration* of the two underlying items of *SocMedEng* into the antecedent *Inclination New*.

Figure 5.6 Testing the *Streamlined* Model Version (Total Sample: N_T = 530)

The grey coloured ellipses represent the model variables and the rectangular boxes the underlying items/statements resulting from the CFA. The dark blue coloured arrows show the direct effects. The purple coloured arrows represent the indirect effects via the assumed moderator variable Social Capital. The dotted line represents a non-significant path value (p > .05). The structural paths of the model contain the standardised regression coefficients.

Table 5.26 Summary Appraisal for the *Streamlined* Model Version (Total Sample: N_T = 530)

Index/Measure (N_T = 530)	Benchmark	Value	Comment
CMIN	N/A	249.64	The sample size is N_T of 530 >> 250.
DF	N/A	5	The ideal sample size is (N/DF) = 106.
CMIN/DF = Norm Chi-Square	[1.00 to 5.00]	49.93	The value is far too large.
GFI = Goodness-of-Fit Index	≥ .92	.91	The value has reached a good level.
AGFI = Adjusted Goodness-of-Fit Index	≥ .90	.48	The value is clearly below the recommendation.
NFI = Normed Fit Index	≥ .95	.86	The value has increased to an almost acceptable level.
CFI = Comparative Fit Index	≥ .92	.86	The value has increased to an almost acceptable level.
RMSEA = Root Mean Squared Error	≤ .07	.30	The value has deteriorated and indicating model incorrectness.

The summary analysis for the *streamlined* model in Table 5.26 showed that the model fit could be slightly enhanced and reached for a few parameter-estimates almost acceptable levels (CFI = .86; GFI = .91; RSMEA = .30).

Examining the Streamlined Structural Equation Model for all Three Samples:

The findings depicted in Table 5.26 were still not yet ideal and led to the consideration to examine the *streamlined* model version against the backdrop of the three subsamples for both dimensions of the antecedent (*Inclination and Hesitation*) *prior* to deciding to make any further model adjustments towards a *final* model.

The results of the *streamlined* model are illustrated for *vendors* versus *third-party* and *buyers* in Figure 5.7 and Table 5.27 to detect *particularities* within the three samples.

Figure 5.7 Testing the *Streamlined* Model Version for *all* Samples; *Inclination*

The grey coloured ellipses represent the model variables and the rectangular boxes the underlying items/statements. The dark blue coloured arrows show the direct effects. The purple coloured arrows represent the indirect effects via the assumed moderator Social Capital. The dotted lines represent the non-significant path values (*p* > .05). The structural paths of the model contain the standardised regression coefficients. The first values relate to the Vendor, the second values to the Third Party and the third values to the Buyer Sample.

The findings revealed that *Inclination* for vendors and third-party respondents exhibited the highest regression coefficients for the 4th and 1st BD process phase versus for buyers for the 4th and 2nd BD process phase.

The *standardised regression coefficients* for the BD process phase II regularly showed the *least* impact via *Social Capital* on *Business Performance*. This was expected and explainable from the specific nature of the 2nd BD process phase.

The results of the SEM analysis of the *streamlined* model for the *first* dimension of the antecedent *Inclination* toward Social Media Business Usage (Table 5.27) showed *marginally higher/better* values for buyers (CFI = .89; GFI = .91; RSMEA = .28) than for vendors (CFI = .86; GFI = .89; RSMEA = .32) and third-party respondents (CFI = .85; GFI = .91; RSMEA = .29).

Table 5.27 Summary Appraisal for the *Streamlined* Model Version for *all* Samples; *Inclination*

Index/Measure ($N_V = 188$; $N_{TP} = 235$; $N_B = 107$)	Benchmark	Value	Comment
CMIN	N/A	100.42; 106.22; 47.16	The sample sizes were for $N_V = 188$, $N_{TP} = 235$ and $N_B = 107$.
DF = Degrees of Freedom	N/A	5; 5; 5	The ideal sample size is (N/DF) ≈ 37; 47; 21.
CMIN/DF = Norm Chi-Square	[1.00; 5.00]	20.09; 21.24; 9.43	The values are far too large.
GFI = Goodness-of-Fit Index	≥ .92	.89; .91; .91	The values are acceptable and good.
AGFI = Adjusted Goodness-of-Fit Index	≥ .90	.41; .49; .50	The values are clearly below the recommendation.
NFI = Normed Fit Index	≥ .95	.85; .85; .89	The values are (almost) acceptable.
CFI = Comparative Fit Index	≥ .92	.86; .85; .89	The values are (almost) acceptable.
RMSEA = Root Mean Squared Error	≤ .07	.32; .29; .28	The values are still too high and indicate a poor model fit.

The *Streamlined* Model Version was also tested for the *second* dimension of the antecedent *Hesitation* towards Social Media Business Usage as depicted in Figure 5.8 and Table 5.28.

Figure 5.8 Testing the *Streamlined* Model Version for *all* Samples; *Hesitation*

The grey coloured ellipses represent the model variables and the rectangular boxes the underlying items/statements. The dark blue coloured arrows show the direct effects. The purple coloured arrows represent the indirect effects via the assumed moderator Social Capital. The dotted lines represent the non-significant path values (*p* > .05). The structural paths of the model contain the standardised regression coefficients. The first values relate to the Vendor, the second values to the Third Party and the third values to the Buyer Sample.

As expected *Hesitation* for vendors exhibited the highest regression coefficients inversely for the 4th BD process phase, similar to third-party and buyer respondents. While vendors and buyers also indicated high standardised regression coefficients for the remaining BD process phases, the third-party respondents just showed a relatively high value for the 3rd BD process phase.

The outcome of the SEM analysis of the *streamlined* model for the second dimension of the antecedent *Hesitation* (Table 5.28) demonstrated marginally higher/better values for *Buyers* (CFI = .88; GFI = .91; RSMEA = .28) than for *Vendors* (CFI = .84; GFI = .89; RSMEA = .32) and *Third-party* (CFI = .83; GFI = .91; RSMEA = .30).

Table 5.28 Summary Appraisal for the *Streamlined* Model Version for *all* Samples; *Hesitation*

Index/Measure (N_V = 188; N_{TP} = 235; N_B = 107)	Benchmark	Value	Comment
CMIN	N/A	102.61; 113.19; 50.91	The sample sizes were for N_V = 188, N_{TP} = 235 and N_B = 107.
DF = Degrees of Freedom	N/A	5; 5; 5	The ideal sample size is (N/DF) ≈ 37; 47; 21.
CMIN/DF = Norm Chi-Square	[1.00; 5.00]	20.52; 22.64; 10.18	The values are far too large.
GFI = Goodness-of-Fit Index	≥ .92	.89; .91; .91	The values are acceptable and good.
AGFI = Adjusted Goodness-of-Fit Index	≥ .90	.40; .47; .47	The values are clearly below the recommendation.
NFI = Normed Fit Index	≥ .95	.84; .83; .88	The values are (almost) acceptable.
CFI = Comparative Fit Index	≥ .92	.84; .83; .88	The values are (almost) acceptable.
RMSEA = Root Mean Squared Error	≤ .07	.32; .30; .28	The values are still too high and indicate a poor model fit.

Examining the Streamlined Model Version for the two Media User Groups:

The *streamlined* model was also tested for the total sample regarding the two media user groups, i.e. *High-Social-Media–Low-Traditional-Media Users* versus *Low-Social-Media–High-Traditional-Media Users* which are discussed in greater detail in Chapter 6.1.

Figure 5.9 Testing the *Streamlined* Model Version; *Mixed* Media Usage (N_T = 530)
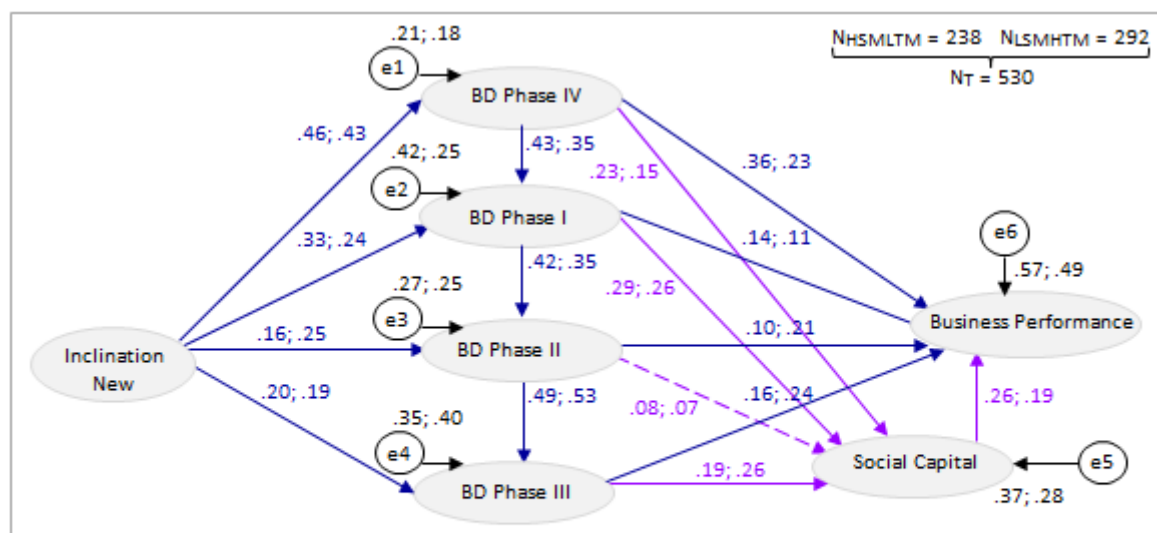
The grey coloured ellipses represent the model variables. The dark blue coloured arrows show the direct effects. The purple coloured arrows represent the indirect effects via the assumed moderator, Social Capital. The structural paths of the model contain the standardised regression coefficients. The dotted line represents the non-significant path value (*p* > .05). The first values relate to the High-Social-Media–Low-Traditional-Media User (N_{HSMLTM}), and the second values to the Low-Social-Media–High-Traditional-Media User (N_{LSMHTM}).

It became clear that *Inclination* towards Social Media Business Usage exhibited generally higher regression coefficients for all BD process phases for the first group of *High-Social-Media*–Low-Traditional-Media users with the exception of the BD process phase II.

For this particular BD process phase, the second group of *High-Traditional-Media*–Low-Social-Media user indicated a *higher* regression coefficient. The BD process phase II was also the only phase which did not reveal any substantial indirect effect via Social Capital on Business Performance.

The results presented in Figure 5.9 (above) and Table 5.29 demonstrated a slightly better model fit (CFI = .88; GFI = .91; RSMEA = .29) for the *first* group of the *High-Social-Media*–Low-Traditional-Media users than the *second* group of the *High-Traditional-Media*–Low-Social-Media user (CFI = .84; GFI = .89; RSMEA = .30).

Table 5.29 Summary Appraisal for the *Streamlined* Model; *Mixed* Media Usage (N_T = 530)

Index/Measure N_T = 530 N_{HSMLTM} = 238 N_{LSMHTM} = 292	Benchmark	Value	Comment
CMIN	N/A	104.10; 139.56	The sample sizes were for N_{HSMLTM} = 238; N_{LSMHTM} = 292.
DF = Degrees of Freedom	N/A	5; 5	The ideal sample size is (N/DF) ≈ 47; 58.
CMIN/DF = Norm Chi-Square	[1.00; 5.00]	20.82; 27.91	The values are far too large.
GFI = Goodness-of-Fit Index	≥ .92	.91; .91	The values are acceptable and good.
AGFI = Adjusted Goodness-of-Fit Index	≥ .90	.50; .47	The values are clearly below the recommendation.
NFI = Normed Fit Index	≥ .95	.87; .84	The values are (almost) acceptable.
CFI = Comparative Fit Index	≥ .92	.88; .84	The values are (almost) acceptable.
RMSEA = Root Mean Squared Error	≤ .07	.29; .30	The values are still too high indicating a poor model fit.

Overall, the outcome of the *Streamlined* Model Version exhibited a slightly better model fit evidenced by a few values in the acceptable range. The scope of the results was however diminished by parameters like the RMSEA values which indicated still model inaccuracies.

Discussing the Path Analyses for H_1 to H_{10}:

To examine the path analyses for the main hypotheses H_1–H_{10} the *Comprehensive* Structural Equation Model presented in Figure 5.4,169 was revisited.

As shown in the following Table 5.30, the path analyses indicated that the majority of the hypotheses H_1–H_{10} was more or less supported.

The *initially* assumed causal relationships of Hypothesis H_6 between *Usage Criteria* and *Business Performance* was *not* sustainable and could therefore *not* be maintained.

Table 5.30 Standardised Path Estimates for the *Comprehensive* Structural Model ($N_T = 530$)

H	+/− Path			Estimate β	p	H Supported?
$H_{1a/b}$	TISMBU/TRHSMBU	+/− →	TSMBI	.19/-.16	***	Yes
$H_{2a/b}$	TISMBU/TRHSMBU	+/− →	TRSMBII	.17/.-16	***	Yes
$H_{3a/b}$	TISMBU/TRHSMBU	+/− →	TSMBIII	.16/.-20	***	Yes
$H_{4a/b}$	TISMBU/TRHSMBU	+/− →	TRSMIV	.39/.-37	***	Yes
$H_{4c/d}$	TISMBU/TRHSMBU	+/− →	SocMedEng	.27/-.26	***	Yes
H_5:	TSCAP	+ →	TPERF	.21	***	Yes
H_{6a}	TRUCRSD	+ →	TPERF	.00	ns	No
H_{6b}	TRUCREU	+ →	TPERF	-.02	ns	No
H_7	TSMBI	+ →	TPERF	.13	***	Yes
H_8	TRSMBII	+ →	TPERF	.16	***	Yes
H_9	TSMBIII	+ →	TPERF	.21	***	Yes
H_{10a}	TRSMBIV	+ →	TPERF	.31	***	Yes
H_{10b}	SocMedEng	+ →	TPERF	.01	ns	No

Dark blue: Strongest relationship. Medium blue: Strongest relationship for only one of the Antecedent dimensions *Inclination* or *Hesitation*. Light blue: *No* relationship. H = Hypothesis; ***$p \leq .001$; ns = non-significant; β = Standardised Regression Coefficient.

Similarly, the lack of practical significance of *SocMedEng* failed to support Hypothesis H_{10b}. As stated before, the scale items of *SocMedEng* were integrated into *INCL new* (TISMU) to purge the first B2B-Business Development process phase from redundancies.

The Hypotheses $H_{4a/b}$ about the impact of both dimensions of the antecedent on BD process phase IV demonstrated the *most remarkable* relationship, followed by Hypotheses H_{1a} and H_{3b} indicating that both *Inclination/Hesitation* towards Social Media Business Usage substantially affected the various BD process phases.

The relationship values of Hypotheses H_{10a} (*highest* value for BD process phase IV) and H_9 (*second highest* value for BD process phase III) concerning *Performance* were anticipated.

This outcome in the various model modifications through SEM was primarily upheld with minor differences in the three subsamples. For example, the findings indicated that both dimensions of the antecedent regularly had the *most robust* relationships with the *BD process phase IV*. *This particular process phase* in turn also affected the outcome variable *Performance* the most, expressed by the highest *ß* value.

The *second highest* values were noticed in the *BD process phase III* among the vendor and third-party samples in contrast to buyers where the highest values were reached in the *BD process phase II*. These findings suggest that vendors or third-party respondents might develop specific guidelines or recommendations on how to shift their Social Media efforts in the *BD process phase II* to 'get in 'sync' with the focal point of buyers.

Moreover, these results imply that *Inclination/Hesitation* towards Social Media Business Usage influence the B2B-Business Development process cycle and ultimately have the potential to constitute *the deciding factor* for future Business Performance.

However, the overall impression conveyed by the various model modifications was mixed. While some of the acceptable values indicated a *potential model fit*, others signalled just the opposite. Consequently, further-reaching analyses seemed necessary to consolidate the particularly *weak* results of the path analyses.

Model Respecification: Towards the Development of the Final Model Version

A logical step forward towards enhancing the SEM model involved a post-hoc analysis based on a "model respecification [which] should not be the result of searching for relationships, but for improving model fit that is theoretically justified" (Hair Jr et al., 2009,747). For this purpose, a *specification search* was conducted to test out empirical diagnostics to support potential model changes. The *Modification Indices (M.I.)* were reviewed to identify signals of relationships which might be includable in line with the theoretical underpinnings and backed by readily understandable and empirical reasoning.

Figure 5.10 shows the outcome of the specification search which was performed based on the *original comprehensive model* for the *High*-Social-Media–*Low*-Traditional-Media-User sample.

Figure 5.10 *Comprehensive* Model Version; *High*-Social-Media-Users
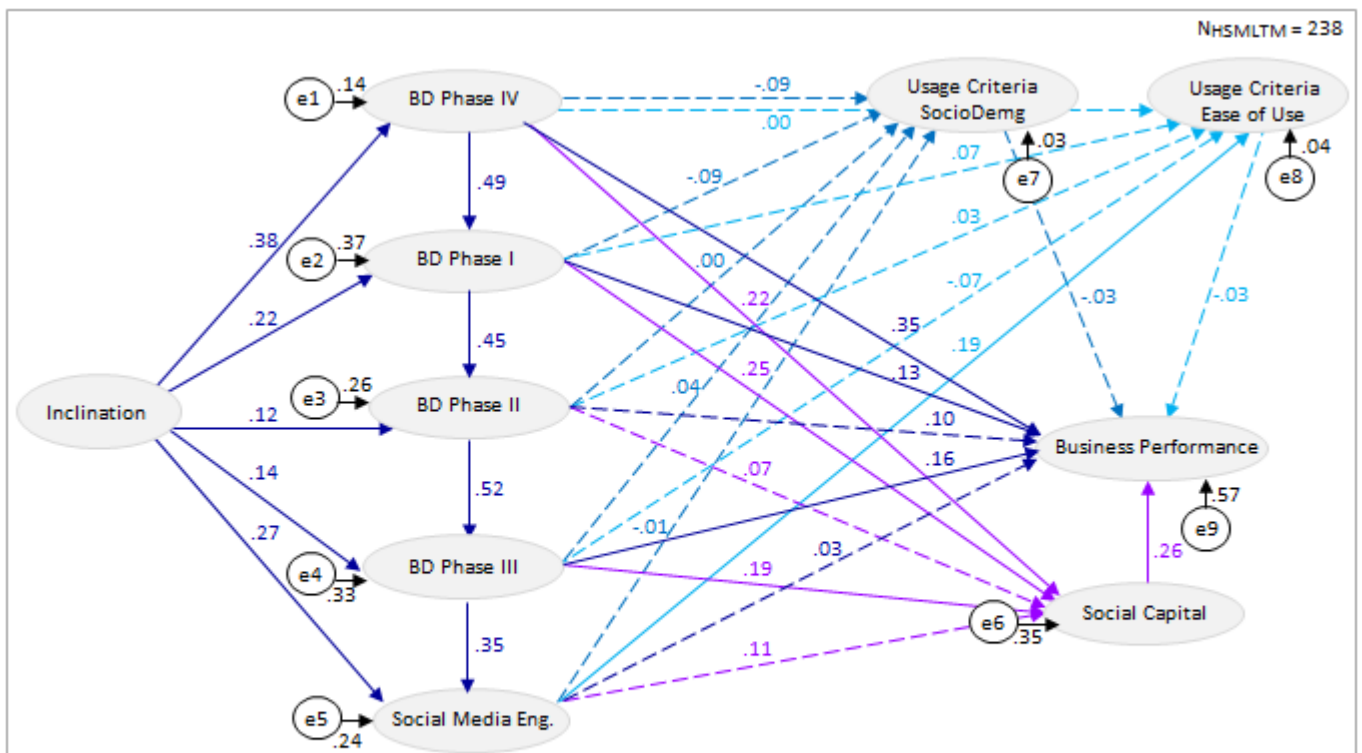
The grey coloured ellipses represent the model variables. The dark blue coloured arrows show the direct effects. The lighter blue/purple coloured arrows represent the indirect effects via the assumed moderators Usage Criteria and Social Capital. The dotted lines represent non-significant path values (p > .05). The structural paths of the model contain the standardised regression coefficients or β values. High-Social-Media-User–Low-Traditional-Media-User (HSMLTM).

The corresponding summary appraisal is depicted below.

Table 5.31 Summary Appraisal for the *Comprehensive* Model; *High*-Social-Media-Users

Index/Measure N$_{HSMLTM}$ = 238	Benchmark	Value	Comment
CMIN	N/A	180.43	The sample size is slightly below 250.
DF	N/A	13	The ideal sample size is (N/DF) ≈ 18.
CMIN/DF = Norm Chi-Square	[1.00 to 5.00]	13.88	The value is too large.
GFI = Goodness-of-Fit Index	≥ .92	.90	The value is just acceptable.
AGFI = Adjusted Goodness-of-Fit Index	≥ .90	.56	The value is definitely too small.
NFI = Normed Fit Index	≥ .95	.81	The value is still small.
CFI = Comparative Fit Index	≥ .97	.81	The value is too low for a well-fitted model.
RMSEA = Root Mean Squared Error	≤ .08	.23	The value indicates a poor model fit.

The Modification Indices *higher than 10* and the *reasoning* behind these relationships are indicated in the following.

Table 5.32 Selected Modification Indices for Structural Paths; *High*-Social-Media-Users

Related Model Constructs *Regression Weights*		M.I.	Underlying Consideration	Incorporation in Respecified Model?
BD Phase II	BD Phase IV	15.3	*Sharing client and deal-relevant information and knowledge as well as increasing the number of leads and generating opportunities* are inter-related to some extent.	Yes
BD Phase III	BD Phase IV	38.8	*How current relationships are managed and which social networks can be leveraged* to reach new customers is highly related to *increase the number of leads and generate opportunities*.	Yes
BD Phase III	BD Phase I	24.3	*Current relationships and social networks* represent resources to *identify and prospect potential buyers*.	Yes
SocMedEng	BD Phase I	23.7	The two items of SocMedEng were initially part of the *BD Process Phase I* before conducting the EFA and CFA. Social Media represents the tool to simplify the first BD process phase, i.e. *identifying and prospecting potential buyers*. Moreover, an informative Social Media profile helps *to distinguish Business Developers* from the crowd of competitors.	No
UCRITEOU	UCRITSD	22.3	Originally, both dimensions of Usage Criteria, i.e. *Ease of Use* and *Socio-Demographics* were combined in one construct before conducting the EFA and CFA.	No
UCRITSD	UCRITEOU	20.0		

All Modification Indices (M.I.) > 10.0 were included.

The relationship between both *B2B-Business Development process phases II* and *IV* is apparent. It is reasonable to assume that a substantial groundwork in terms of *preparing and sharing client and transaction relevant information* is deemed necessary and might have a positive impact on *increasing the number of leads and generating opportunities,* i.e. get short-listed and eventually winning the business. Thus, this relationship will be incorporated in the *respecified (final) model*.

A similar case occurs when *current relationships and particular social network contacts* are leveraged to *increase the number of leads and generate opportunity*. This is supported by studies integrating Social Media with CRM to enhance sales performance (Rodriguez and Peterson, 2012; Rodriguez et al., 2014). Another argument in favour of this relationship is that a part of the Business Development activities comprises reviving previous opportunities, which did not (yet) come to fruition or to leverage existing relationships to uncover potential new business. Also, the fact that this relationship has *one of the highest* Modification Index values might justify the inclusion in the *respecified (final) model*.

The relationship between *BD process phase III* and *BD process phase I* appears quite clear. B2B-companies can benefit from Social Media Business Usage in both process phases, i.e. the nurturing of existing customers and the targeting and acquisition of prospective ones (Andersson and Wikström, 2017). It is common practice, and part of the daily activities of Business Development executives to search through traditional databases or CRM systems for critical contacts when initiating a relationship with new target companies. Therefore, this relationship will be also included.

Though the next relationship *SocMedEng* and *BD process phase I* demonstrated a *high* Modification Index, this relationship was abandoned for the reasons mentioned before and the non-significant path values with the exception of the *Usage Criteria* dimension *Ease of Use*. The theoretical considerations supported the decision to integrate the items of *SocMedEng* in the antecedent *Inclination New* as illustrated in Figure 5.6,172.

Lastly, though *Usage Criteria* had intensive support from the literature review, the relationship between the two dimensions of *Usage Criteria* resulting from the exploratory and confirmatory factor analyses demonstrated neither significant values in the regression analyses nor the SEM. Thus, both dimensions were neglected in the *respecified (final) model*.

The *gradual incorporation* of the three relationships demonstrated a *regular improvement* of the model fit. The simultaneous inclusion of all three relationships in the *respecified (final) model version* illustrated in Figure 5.11 below resulted in a *considerable enhancement* of the original, i.e. comprehensive model.

On a more optimistic note, the parameters in Table 5.33,182 indicated an *excellent* model fit. The level of indices like CMIN/DF, AGFI or even RMSEA being previously regularly outside the acceptable range reached finally 'good' to 'outstanding' values. Nonetheless, this model contained a remarkable *low* DF value.

The *Respecified Model* below which represents at the same time the *Final Model Version* was substantially improved by taking the *interrelationships* between the B2B-Business Development process phases into account. This *interactive* approach differed slightly from the literature where comparable sales process phases were considered only *successively* without any interdependencies among the phases. Moreover, this approach seemed justifiable from a practical view, since it is more realistic by recognising that the BD process phases influence each other and even coincide.

Figure 5.11 *Final* **Model Version;** *High*-**Social-Media-Users**

The grey coloured ellipses represent the model variables. The dark blue coloured arrows show the direct effects. The purple coloured arrows represent the indirect effects via the assumed moderator Social Capital. The plum coloured arrows reflect the incorporated relationships based on the M.I. analysis. The dotted lines represent non-significant path values (*p* > .05).The structural paths of the model contain the standardised regression coefficients or *ß* values. High-Social-Media-User—Low-Traditional Media-User (HSMLTM).

For example, the relationships between *BD process phase III* and *BD process phase IV* showed the *highest* value which is not unexpected since both phases are critical to getting the right decision-makers involved towards preparing and closing new business transactions. Between *BD process phase III* and *BD process phase II* was *no* substantial relationship apparent which is explainable from their built-in function, i.e. the information/knowledge is encapsulated in CRM systems.

The *Inclination* towards Social Media Business Usage was substantially *higher* for both the *BD process phase I* and *BD process phase II* while it was *similar* for *BD process phase III* and *BD process phase IV*. This was understandable since BD process phases III and IV require increasingly personal contact (traditional face-to-face meetings) whereas the BD process phases I and II can be mostly tackled with Social Media. While the *BD process phase IV* indicated the highest impact on *Business Performance*, the *BD process phase I* seemed to have a critical influence on *Social Capital*. This is reasonable given the fact that BD process phase IV aims at generating business opportunities, whereas BD process phase I focuses on identifying relevant contacts which might accumulate the Social Capital once they become 1st degree Social Media connections.

Contrary, the path from *BD process phase II* to *Business Performance* proved to be *not* significant (*ß* = .09, p = .23 > .05). This finding failed to support Hypothesis H$_8$.

Critical Appraisal and Extensions of the Final Model Version:

The fit indices of the previous model versions initially revealed a rather disappointing picture in terms of complying with the recommended guidelines. For example, the *Comprehensive Model Version* for *High*-Social-Media-User indicated a poor fit (χ^2 $_{(238)}$ = 180.43; RMSEA = .233; CFI = .811; and normed χ^2 CMIN/DF = 13.879) as evidenced by Table 5.31,179.

It was stated before that the model fit indices should be understood as guidelines and that the specification search conducted should be in line with theoretical conjectures irrespective of whether the Structural Equation Model would achieve a reliable fit or not.

This was also true for the opposite. The adequacy of the *Finalised* Model Version should not be overestimated either and mislead to hubris. Consequently, in line with Byrne (2016,102) "that global fit indices alone cannot possibly envelop all that needs to be known about a model in order to judge the adequacy of its fit to the sample data" the *finalised* model was examined from various perspectives, i.e. in the mixed context of theoretical underpinnings, statistical methodologies and best practices of Business Developers to be of ultimate academic and managerial relevance.

Eliminating *Usage Criteria and SocMedEng* and adding three paths (interactions) into the *BD process phases* slightly redesigned the *Comprehensive Model Version*. These alterations were reviewed against the background of literature, practical reasoning and statistical suggestions. Though the standardised structural path coefficients were slightly weaker in the *Final Model* version compared to the *Comprehensive* Model version for the sample of *High-Social-Media-User–Low-Traditional-Media-User*, the optimised model fit (χ^2 $_{(238)}$ = 11.07; RMSEA = .029; CFI = .998; and normed χ^2 CMIN/DF = 1.384) displayed below supported largely the initial hypotheses without compromising the underlying theoretical considerations to achieve the most valid results.

Table 5.33 Summary Appraisal for the *Final* Model Version; *High*-Social-Media-Users

Index/Measure N$_{HSMLTM}$ = 238	Benchmark	Value	Comment
CMIN	N/A	11.073	The sample size is slightly below 250.
DF	N/A	8	The ideal sample size is (N/DF) = 29.
CMIN/DF = Norm Chi-Square	[1.00 to 5.00]	1.384	The value is very good.
GFI = Goodness-of-Fit Index	≥ .92	.993	The value indicates a very good fit.
AGFI = Adjusted Goodness-of-Fit Index	≥ .90	.908	The value indicates a good fit.
NFI = Normed Fit Index	≥ .95	.993	The value indicates a very good fit.
CFI = Comparative Fit Index	≥ .97	.998	The value is very good.
RMSEA = Root Mean Squared Error	≤ .08	.029	The value indicates a good fit. (LO = .000, HI = .065)

Moreover, the original conceptual framework was extended by adding a further dimension, *Business Performance in the broader sense* referring to the *expected* outcome of Social Media Usage such as long-term ROI contribution, process/activity optimisation as evidenced in Appendices D12 and M10. This media-based performance dimension *Social Media Justification* (TRSMJU) was supported by exploratory and confirmatory factor analyses and literature (Hunter and Perreault Jr, 2007; Rodriguez et al., 2014).

The *extended final* model essentially affirmed the results achieved in the *Final* Model Version before. Likewise, the results were promising ($\chi^2_{(238)}$ = 19.19; RMSEA = .036; CFI = .996; and normed χ^2 CMIN/DF = 1.599) as demonstrated in Appendix M10.

Determining whether Social Capital acts as a Mediator:

The initial assumption that *Social Capital* acted alongside *Usage Criteria* as moderator variable could not be upheld in the moderator analyses as mentioned in Chapter 5.4,158. Therefore, the questions were raised whether *Social Capital* mediated a *positive* effect on the individual *B2B-Business Development process phases* and *both dimensions of Business Performance* and to what extent.

The conducted mediation analyses showed that *Social Capital* indirectly influenced Business Performance *in the narrow sense* (see Table 5.36,185) as well *as in the broader sense* (see Table 5.37,185). Appendices M5–M10 illustrate in greater detail the model versions with direct, indirect and combined effects for both, the respecified (final) model and extended respecified (final) model version.

For example, the *Final* Model Version for *Business Performance* indicated a significant decrease in chi-square ($\Delta\chi^2$ = 227.84, *df* = 16, *p* = .198) (Direct + Indirect Effects) compared to the Indirect Effects only (Appendix M7). This result was accompanied by a substantive improvement in model fit.

Table 5.34 below shows that *most* of the bootstrapped effects were statistically significant. High-Social-Media-User believed that primarily *BD process phase IV* (.34) followed by *BD process phase III* (.15) were directly critical to *Business Performance* while *BD process phase I* had less direct influence.

On the contrary, the High-Social-Media-User did *not* perceive any direct influence of *BD process phase II* on *Business Performance*.

It was conceivable that Social Capital indirectly influences Business Performance especially regarding the *BD process phases III* (.34) and *II* (.29).

Table 5.34 Mediation Effects *Final* Model Version; *One* Performance Dimension

Assessing the Mediation Effects; Final Model; N$_{HSMLTM}$ = 238; One Performance Dimension

Hypothesis	Direct Effects	Indirect Effects	Results
Business Perf <-- BD Phase IV	.338 **	.118 ***	Partial Mediation
Business Perf <-- BD Phase I	.133 *	.153 ***	Partial Mediation
Business Perf <-- BD Phase II	.092 ns	.294 **	Full Mediation
Business Perf <-- BD Phase III	.147 *	.339 **	Partial Mediation

Statistically significant *p ≤ .05; **p ≤ .01; ***p ≤ .001; ns = not significant; Bootstrap 95% C.I.; Two Tailed Significance; Standardised Effect Values.

For *both* dimensions, *Business Performance* and *Social Media Justification* there was *no* statistically significant *direct* effect of the *BD process phase II* detectable. For the other BD process phases, the mediation effects showed a *slightly different* picture. While *BD process phase III* demonstrated *no* significant direct effect towards *Performance*, *BD process phase I* did *not* directly impact *Social Media Justification*. For these process phases, *Social Capital* entirely indirectly mediated the relationship to the performance dimensions as can be seen in Table 5.35.

Table 5.35 Mediation Effects *Extended Final* Model Version; *Two* Performance Dimensions

Assessing the Mediation Effects; Extended Final Model; N$_{HSMLTM}$ = 238; Two Performance Dimensions

Hypothesis	Direct Effects	Indirect Effects	Results
Business Perf <-- BD Phase IV	.293 **	.162 ***	Partial Mediation
Business Perf <-- BD Phase I	.112 *	.174 ***	Partial Mediation
Business Perf <-- BD Phase II	.073 ns	.313 **	Full Mediation
Business Perf <-- BD Phase III	.096 ns	.391 ***	Full Mediation
SocMedJustif. <-- BD Phase IV	.193 *	.089 **	Partial Mediation
SocMedJustif. <-- BD Phase I	.091 ns	.124 **	Full Mediation
SocMedJustif. <-- BD Phase II	.082 ns	.249 ***	Full Mediation
SocMedJustif. <-- BD Phase III	.226 **	.226 ***	Partial Mediation

Statistically significant *p ≤ .05; **p ≤ .01; ***p ≤ .001; ns = not significant; Bootstrap 95% C.I.; Two Tailed Significance; Standardised Effect Values.

The remaining question was whether the *indirect effects* changed when the direct paths were added in the revised final model and whether these changes were still significant and represented a substantial portion of the total effects.

The *Mediated Model Version for One Performance Dimension* in Table 5.36 showed that when the direct effects were added that the *decrease* of the indirect effects was still statistically significant for the *BD process phases IV and I*, opposed to the *BD process phase II*. However, the indirect effect *increased* substantially for the *BD process phase III*.

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The results were *similar* for the Two Performance Dimensions illustrated in Table 5.37.

The *direct* and *indirect* effects of *BD process phase III* were *equal* regarding *Social Media Justification* (Second Performance Dimension).

Table 5.36 Assessing Direct and Indirect Effects in the Mediated Model One Perf. Dimension

Assessing Direct + Indirect Effects in the Mediated Model; N$_{HSMLTM}$ = 238; One Performance Dimension

Effects	Final Model Indirect Effects			Revised Final Model Direct + Indirect Effects		
	Total	Direct	Indirect	Total	Direct	Indirect
Social Capital <-- BD Phase IV	.298	.000	.073	.298	.225	.073
Social Capital <-- BD Phase I	.344	.000	.063	.344	.280	.064
Social Capital <-- BD Phase II	.297	.000	.221	.297	.076	.221
Social Capital <-- BD Phase III	.415	.000	.233	.415	.182	.233
Business Perf <-- BD Phase IV	.188	.000	.188	.455	.338	.117
Business Perf <-- BD Phase I	.216	.000	.216	.286	.133	.153
Business Perf <-- BD Phase II	.187	.000	.187	.386	.092	.294
Business Perf <-- BD Phase III	.415	.000	.261	.486	.147	.339
Business Perf <-- Social Capital	.630	.630	.000	.254	.254	.000

The values represent the standardised effects. The blue coloured relationships were *not* significant.
The Final Model and the Revised Final Model are depicted in the Appendices M6–M7.
HSMLTM = High-Social-Media-User-Low–Traditional-Media-User

Table 5.37 Assessing Direct and Indirect Effects in the Mediated Model Two Perf. Dimensions

Assessing Direct + Indirect Effects in the Extended Mediated Model; N$_{HSMLTM}$ = 238; Two Performance Dimensions

Effects	Extended Final Model Indirect Effects			Revised Extended Final Model Direct + Indirect Effects		
	Total	Direct	Indirect	Total	Direct	Indirect
Social Capital <-- BD Phase IV	.298	.000	.073	.298	.225	.073
Social Capital <-- BD Phase I	.344	.000	.063	.344	.280	.064
Social Capital <-- BD Phase II	.297	.000	.221	.297	.076	.221
Social Capital <-- BD Phase III	.415	.000	.233	.415	.182	.233
Business Perf <-- BD Phase IV	.188	.000	.188	.455	.293	.162
Business Perf <-- BD Phase I	.216	.000	.216	.286	.112	.174
Business Perf <-- BD Phase II	.187	.000	.187	.386	.073	.313
Business Perf <-- BD Phase III	.261	.000	.261	.486	.096	.390
Business Perf <-- Soc Med Justific	.422	.422	.000	.229	.229	.000
Business Perf <-- Social Capital	.630	.418	.212	.254	.210	.044
Soc Med Justific <-- BD Phase IV	.150	.000	.150	.282	.293	.089
Soc Med Justific <-- BD Phase I	.173	.000	.173	.215	.091	.124
Soc Med Justific <-- BD Phase II	.150	.000	.150	.331	.082	.249
Soc Med Justific <-- BD Phase III	.209	.000	.209	.452	.226	.226
Soc Med Justific <-- Social Capital	.504	.504	.000	.191	.191	.000

The values represent the standardised effects. The blue coloured relationships were *not* significant.
The Extended Final Model and the Revised Extended Final Model are depicted in the Appendices M9–M10.
HSMLTM = High-Social-Media-User-Low–Traditional-Media-User

Overall, these results suggested that *Social Capital* <u>mediated</u> the relationship between the *BD process phases* and the *Performance Dimensions* although to different degrees.

Conducting Multigroup Analysis:

Differences were expected within the three samples (vendor, third-party, and buyer) regarding the Extended *Final* Model Version among the High-Social-Media–Low-Traditional Media-Users. A series of χ^2-Difference tests should provide the evidence whether differences were recognisable.

It was shown that the *extended final model version* differed in the vendor–buyer (CMIN = 60.831; *df* = 25; *p* = .000) and vendor–third-party groups (CMIN = 14.205; *df* = 6; *p* = .027). Contrariwise, no difference in the model could be observed for the third-party–buyer group (CMIN = 5.857; *df* = 6; *p* = .439). The findings should be seen in the light of the fact that the *sample sizes* were *dissimilar*.

To identify *significant path values* for two groups at a time each path was constrained while estimating the remaining paths freely. However, only a few significant values among the vendor–buyer; vendor–third-party; and third-party–buyer group were identified, whereby the *ß* values express the strength of these relationships (Table 5.38).

Table 5.38 Chi-Square Difference Tests for the Extended Final Model Version

Chi-Square Difference Tests for two samples each based on the
Extended Final Model; N_{HSMLTM} = 238; N_V = 90; N_{TP} = 112; N_B = 36

Path			ß N_V; N_B	ß N_V; N_{TP}	ß N_{TP}; N_B
BD Phase I	-->	BD Phase II	*.17; .21	†.14; .17	*.28; .61
BD Phase II	-->	Business Performance	*.02; .02	†.07; .06	n.s.
BD Phase III	-->	Business Performance	*.15; .16	*.10; .11	n.s.
BD Phase I	-->	Social Capital	†.39; .40	n.s.	*.13; .59
BD Phase III	-->	Social Capital	n.s.	†.17; .17	n.s.
Social Capital	-->	Business Performance	*.22; .24	†.22; .23	n.s.
BD Phase II	-->	BD Phase IV	*.18; .17	n.s.	n.s.
BD Phase III	-->	BD Phase I	n.s.	n.s.	*.36; -.31
BD Phase I	-->	SocMed Justification	*-.02; -.02	n.s.	**.21; -.65
Social Capital	-->	SocMed Justification	n.s.	n.s.	*.08; .63

*$p \le$ .05; **$p \le$ .001; †$p \le$ .10; n.s. = non-significant; ß = Standardized Regression Coefficient; N_V = Vendor; N_{TP} = Third Party; N_B = Buyer group.

Example: The effect for the path: *BD Process Phase I to BD Process Phase II* was different for the vendor + buyer group. The effect was weaker for the vendor than for the buyer group.

These values suggested that, e.g. *Social Capital* had a *similarly* substantial impact *on Business Performance* in both vendor–buyer and vendor–third-party sample, while in the third-party–buyer sample, buyers, realised a particularly strong impact of *Social Capital on Social Media Justification* (*ß* = .63). Though buyers recognised a potential positive impact of the *BD process phase I* on *Social Capital* (*ß* = .59) they perceived the impact of *BD process phase I* on *Social Media Justification* as contrary (*ß* = -.65).

This might be explained by the fact that buyers have *not yet* recognised the possibilities Social Media Business Usage offers to render this particular phase more efficient.

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Only a minority of the relationships of the constructs revealed statistically significant differences. Thus, *partial* theoretical relationship equivalence was assumed.

5.6 Discussion

The results of this quantitative research indicated that the theoretical assumptions had been mainly confirmed except *Usage Criteria* which did not support the initial assumption of a moderator variable for lack of statistical significance. Therefore, it was decided to ignore *Usage Criteria.* Conversely, it was demonstrated that *Social Capital* had a distinctly *positive mixed mediator effect* on *both Performance dimensions*.

The outcome of the *multiple regression analyses* and *structural equation modelling* essentially supported the conceptual model, however, with *mixed* success.

Firstly, the restructuring of the original *BD process phase I–IV* to *BD process phase IV* followed by *BD process phase I–III* might be interpreted as a fundamental change which might have occurred due to the partly heterogenous (sub)samples.

While the re-arrangement of the process phases is understandable from the standpoint of practitioners who are in charge to further develop existing business, by relying on previously developed leads and opportunities, the BD process arrangement for executives who have to develop new business from the ground up, remains close to the proposed original model. Consequently, though the results of EFA and CFA led to the re-arrangement of the BD process phases, it remains justifiable to re-consider the initial conceptual model for future research provided that it targets exclusively or mostly 'New Business Developers'.

Secondly, some of the hypotheses were rejected, for example, Hypothesis H_8 (the path from *BD process phase II* to *Business Performance*). Considering that the *BD process phase II* involves more preparatory activities like *information gathering* it was plausible to assume that it might have a less direct impact on *Business Performance*. Yet, this particular phase appears indispensable and meaningful to provide the optimal groundwork with respect to getting short-listed.

The analysis of the standardised path coefficients (*ß* values) suggested that *BD process phase IV* and *BD process phase III* had a *stronger* direct effect on *Business Performance* which is reasonable from the background that these process phases are focusing on developing B2B-relationships and generating outcome in form of new business. Most of the hypotheses were confirmed although the values did not often reflect the most robust relationships.

Table 5.39 below reveals the *significant* differences regarding the confirmed or rejected hypotheses of the *Streamlined* Model Version presented in Figure 5.9,175.

The path between *BD process phase I* and *Social Capital* was only supported by vendor and buyer respondents. This is understandable from a practitioner standpoint the way that the *BD process phase I* serves to establish a new contact base.

Likewise, when buyers get approached by potential vendors, then the accumulation of *Social Capital* might support in their search of suitable software vendors. Conversely, the path between *BD process phase III* and *Social Capital* proved only *not* significant for the vendor sample. This finding might be explainable by the fact that vendors usually have complex CRM systems for existing customers in place so that they might not depend in the same measure on *Social Capital* in this particular phase compared to buyer and third-party respondents.

Table 5.39 Distinct Differences in the Streamlined Model Version

Distinct Differences in the Streamlined Model Version

Path / Relationship	$N_T = 530$			$N_V = 188$			$N_{TP} = 235$			$N_B = 107$		
Supported? Yes = Y; No = N	Y/N	ß	Sig.	Y/N	ß	Sig.	Y/N	ß	Sig.	Y/N	ß	Sig.
Social Capital <-- BD Phase IV	Y	.183	***	Y	.270	***	Y	.237	***	N	.093	.325
Social Capital <-- BD Phase I	Y	.276	***	Y	.374	***	N	.126	.080	Y	.362	.001
Social Capital <-- BD Phase II	N	.060	.213	N	.053	.484	N	.074	.286	N	.045	.712
Social Capital <-- BD Phase III	Y	.232	***	N	.105	.152	Y	.303	***	Y	.370	***
Business Perf <-- BD Phase IV	Y	.308	***	Y	.318	***	Y	.302	***	Y	.277	***
Business Perf <-- BD Phase I	Y	.128	.001	Y	.132	.027	N	.121	.056	N	.085	.351
Business Perf <-- BD Phase II	Y	.153	***	Y	.121	***	N	.117	.055	Y	.340	***
Business Perf <-- BD Phase III	Y	.208	***	Y	.212	.049	Y	.242	***	N	.141	.105

*** $p < .001$; grey coloured areas indicated non-significance, i.e. $p > .05$; ß = Standardised Regression Coefficients (the relatively high values ß > .30 are highlighted in blue).

Among the vendors the *direct* impact of the *BD process phase IV* on *Business Performance* was *high* (ß = .318) relative to the impact of the other three phases. For buyers, the *BD process phase II* indicated the *highest direct* impact on *Business Performance* (ß = .340) which is reasonable since the *information gathering* phase is critical to prepare the RFP requirements and can substantially influence the negotiated final transaction.

The outcome supported the view that *Social Media Business Usage* has become *essential* in *B2B-Business Development*. Yet, it also revealed that Social Media is *not* necessarily used to the same extent in all Business Development process phases. For example, Social Media Business Usage seemed to concentrate on *BD process phase I* and *II*. This finding is plausible and can be justified by the specific purpose of both phases consisting of *initial contacting* and *information acquisition* activities.

The findings are in part attributable to the following facts.

Firstly, serious Social Media Users in B2B-Business Development quite often belong to the *early adopters* or *early majority*, although Social Media Business Usage has in the meanwhile become widely accepted. Thereby, differences were apparent in different sectors and companies.

It was surprising that both *smaller* companies and *large-sized* corporations revealed a *similar* usage inclination. This may be attributable to the fact that both types of businesses have recognised the potential Social Media offers for B2B-Business Development early on.

Taken together, the results suggest that Social Media substantially impacts the B2B-Business Development process phases, yet to a *variable* extent. The assumption that this influence might depend on individual usage criteria could *not* be upheld.

Both dimensions of the antecedent, *Social Media Business Usage Inclination* and *Hesitation* directly influenced the B2B-Business Development process cycle, in particular, the *BD process phases I and II*. This implies for practitioners to integrate Social Media Business Usage, especially in these two phases. In contrast, both these process phases have *little* or *no* influence on *Business Performance* because they belong to the more upstream processes.

Secondly, the *different purpose* of the BD process phases determines their actual impact on Business Performance. While the *BD process phase I* is about initiating new business relationships, the *BD phase III* is about managing existing client relationships. Thereby, the latter downstream process phase has a slightly stronger impact on *Business Performance*. Conversely, *BD process phase IV* undoubtedly contributes noticeably to *Business Performance*.

This also elucidates why the *indirect* effect *of BD process phase III* via *Social Capital* on *Business Performance* was rather substantial, i.e. *Social Capital* in *BD process phase III* tends to have already been accumulated because of existing clients. In contrast, *Social Capital* in *BD process phase I* has still to be created by targeting new clients and initiating relationships.

Consequently, for vendors the *BD process phase I* seems critical to establish *Social Capital* (accomplished via Social Media Business Usage) while the *BD process phase IV* is of the utmost importance for *Business Performance* (*direct* impact) for vendors and third-party respondents.

Thirdly, *Social Capital* has a *mixed* mediating impact on *Business Performance* not least because of its influence on the *Return on Relationships*. To qualify this further, the concept of Social Capital was within the scope of this research mostly practically verified by *storytelling*. For instance, the author was contacted in November 2017 by previously unknown contacts to participate in two projects, i.e. a science cooking show in Cologne to present his preliminary research outcome and a coaching book project in Boston discussing diverse management styles (Appendices O3–O4). The author's overcoming of his initial reluctance could be explained by the Strength-of-Weak-Ties theory which assumes that *commonality* in profile information might trigger the motivation to support even strangers.

Fourthly, the samples showed a few differences for the *streamlined* model version highlighted in Table 5.39,188.

Clearly, vendor and third-party respondents were more prone to view the *BD process phase IV* as highly critical to *Business Performance* (*greatest direct* effect) compared to buyers who emphasised *BD process phase II*. By contrast, vendor and third-party respondents regarded the *BD process phase I* and *II* critical in terms of *Social Capital*. This might explain the fact that Social Networking Sites are applied – to an even greater extent – during these phases.

Finally, the model fit was *gradually enhanced* and reached *acceptable* and even *excellent* levels by conducting *specification* searches.

Thereby, three existing relationships were eliminated from the research model while three new ones (*interactions* between the BD process phases) were added. Based on the EFA/CFA analyses, two dimensions for the antecedent were confirmed, i.e. *Inclination* and *Hesitation* and a fifth process phase *SocMedEng* was added to the independent variable.

This fifth process phase was integrated later into the antecedent dimension *Inclination new.* Moreover, a second performance dimension *Social Media Usage Justification* (*Business Performance in the broader sense*) was created. These modifications were partially supported by theory, but without having any major impact on the findings.

The table below illustrates the development of the various Structural Equation model versions *at a glance*.

Table 5.40 Snapshot of the Evolving Structural Equation Model Versions

SEM Model Version	Reference	Sample Size	Goodness-of-Fit Statistics	Amendments	Comments
1. Original, Comprehensive	Fig. 5.4,169	$N_T = 530$ $N_{HSMLTM} = 238$	*Not* acceptable.	5th BD Process Phase *SocMedEng* after CFA.	Based on conceptual model, Figure 3.1,88; Measurement model.
2. Simplified	Fig. 5.5,170	$N_T = 530$	Improved, but *not* acceptable.	Elimination of *Usage Criteria*. 3-samples view	Maintaining *Social Capital*.
3. Streamlined	Fig. 5.6,172; Fig. 5.9,175	$N_T = 530$ $N_{HSMLTM} = 238$ $N_{LSMHTM} = 292$	Improved, but with *mixed* results.	The dimension of the Antecedent *Inclination New* was expanded by two items of *SocMedEng*.	*SocMedEng* related to Social Media Usage rather than to the BD process phases.
4. Final	Fig. 5.11,181	$N_{HSMLTM} = 238$	Improved, with *good* and *very good* results.	The model was respecified by adding *interactions* between the BD process phases; ceteris paribus.	Sample High-Social-Media-Users–Low-Traditional-Media-Users, Chapter 6.1, 191.
5. Extensions	Tables 5.34–5.37, 184–185	$N_{HSMLTM} = 238$	Not applicable.	Mediation; direct and indirect effects.	*Social Capital* acts as a mediator.

Given the fact that adding new perspectives to the research might gain a better understanding which justifies the various model alterations and extensions, it is critical to interpreting the overall results with reasonable care.

6 Related Findings for Organisations

This chapter discusses the topics of interest to B2B-organisations by tackling current challenges like the use of a balanced mix of Traditional and Social Media, the affinity and the motivation to apply specific media and how these media are leveraged in the B2B-decision-making process. These additional analyses serve the purpose of firstly, increasing confidence in the current findings and secondly, to add relevance to practitioners (Brennan et al., 2014).

Moreover, this study examines the perceived benefits and impact of Social Media usage, the estimate of Business process cycle times and the classification of Business Developers. Other aspects shed light on the preferred Social Media channels/platforms during the business process cycle and the decision-making components which might challenge the current Social Media content format. This chapter will finish with an assessment of how the participants perceived this project and their willingness to participate in future research.

6.1 Mix of Traditional Media and Social Media

In Question Q2f, the respondents selected out of twelve information sources *the three* which they considered the *most critical* to supporting their B2B-decision-making processes (Appendices C2 and D6). Each of both media had six items assigned which were re-coded into a categorical variable with the characteristics *low* or *high* engagement based on the most frequent nominations. The figure below revealed that the ratio between respondents with *high-Social-Media–low-Traditional-Media-Usage* (45%) versus those with *low-Social-Media–high-Traditional-Media-Usage*' (55%) was approximately 9 to 11. This demonstrated that Social Media usage definitely held a severe role in B2B-decision-making.

Figure 6.1 Preferred Media Mix in B2B-Decision-Making
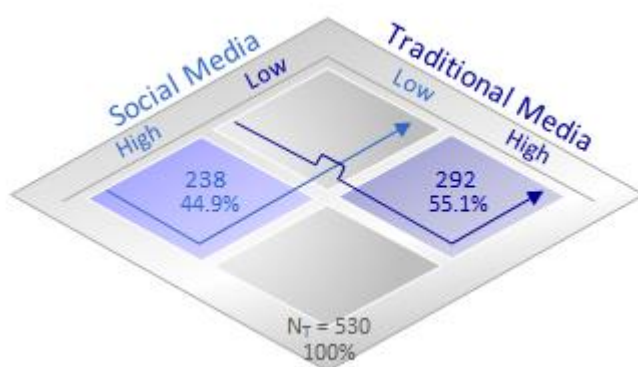
Brief additional comment: Before considering the findings of Question Q2k (Table 6.1,194) on a granular level, the findings of Questions Q4c and Q4k supported this view in parts as illustrated in Figure 6.2 below. A convincing majority of respondents in all samples stated, however, that they perceived the further development that *both media complemented each other*. Traditional Media Usage was viewed as *still prevalent* and in exceptional cases *the only approach*.

For example, in the Aerospace and Defense industry, Social Media profiles are uncommon for security reasons.

Figure 6.2 The Interplay of Traditional Media and Social Media

Q4c Items	$N_V = 188$	$N_{TP} = 235$	$N_B = 107$	$N_T = 530$
STMU1	30.30%	29.40%	29.00%	29.60%
STMU2	51.10%	57.00%	50.50%	53.60%
STMU3	17.00%	12.30%	19.60%	15.50%
STMU4	1.60%	1.20%	.90%	1.30%
Total	100.00%	100.00%	100.00%	100.00%

Median 2 and Modus 2 for all samples

■ STMU1: Social Med Usage substitutes increasingly Traditional Med Usage.
■ STMU2: Social Med Usage complements Traditional Med Usage.
■ STMU3: Traditional Media Usage remains paramount, yet Social Media Usage continues to increase.
■ STMU4: Traditional Media Usage is 'the only way'. There is 'absolute no use at all' for Social Media in our business.

Another reason why Traditional Media Usage still remains paramount can be found in the trade-off between Social Media and Face-to-Face interactions. Though Social Media Usage increases the efficiency of buyer-vendor processes, the associated decrease in face-to-face interactions might adversely affect the quality of B2B-relationships (Guesalaga, 2016).

Question Q4j examined the actual business usage of media based on a rough subdivision of four options adding up to 100%. The findings indicated that Social Media Usage at this time was still perceived as supplementary to Traditional Media Usage.

The tendencies for the total sample $N_T = 530$ were captured in Figure 6.3,193. The responses demonstrated that the media options were used in the following proportion (mean values): Face-to-Face (30%), Traditional Media (41%), Social Media (22%) and Others (7%).

This segmentation gave the impression that Social Media was still clearly outnumbered by Face-to-Face (Traditional meetings) and Traditional Media in general. Though Social Media becomes increasingly recognised in B2B, it has not yet reached its full potential.

For instance, a survey benchmarking Belgian versus US, UK and Dutch companies found that 40.8% of IT companies compared to 26.7% industrial B2B-companies had implemented a Social Media strategy (Veldeman et al., 2017).

Figure 6.3 Predominance of Face-To-Face and other Traditional Media
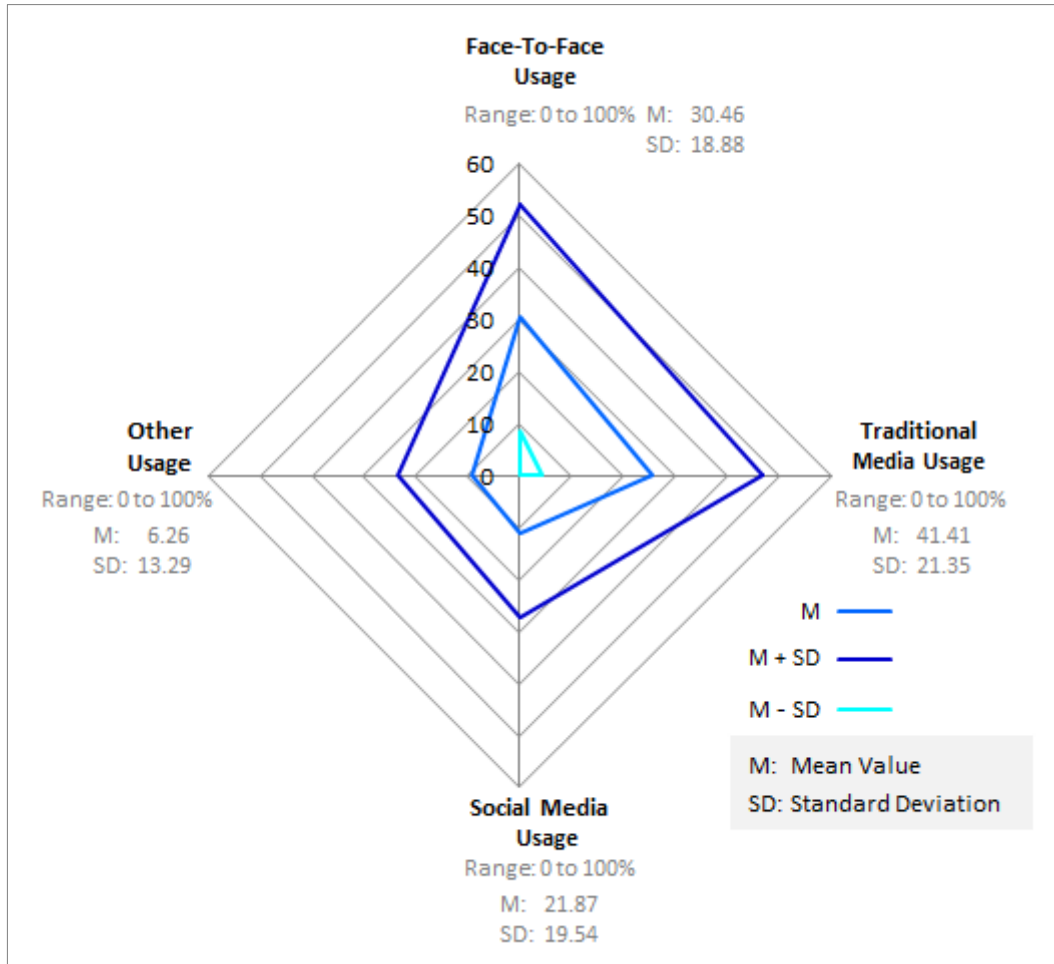
Question Q2k (Table 6.1,194) identified the engagement in Social and Traditional Media on a more granular level and confirmed the initial impression that Traditional Media were still prevalent. Specifically, among the three most mentioned information sources critical to B2B-decision-making processes, traditional *Face-to-Face* and *Word-of-Mouth* (Recommen-dations) remained furthermore of high importance. This finding is in line with Swani and Brown (2011); Andersson and Wikström (2017) since it currently still appears impossible to imagine closing B2B-business transactions which involve complex negotiations merely based on Social Media usage.

However, it may not be overlooked that Social Media ranked among the third and fourth most mentioned information source to support B2B-decisions, i.e. *LinkedIn/XING* followed by *Corporate Websites*. Both media bear a certain resemblance to the functions of their traditional counterparts highlighted in Table 6.1 (Mirroring Effect).

This outcome led to implying that the following strategic recommendations might close the current gaps between, e.g. *LinkedIn/XING* and *Face-to-Face* (29.8%) or *Word-of-Mouth* and *Corporate Websites* (32.4%) by aligning both approaches also from a technological viewpoint.

In particular, more static Social Networking Site (SNS) profiles like LinkedIn/XING might be further developed towards a more *face-to-face* oriented format by embedding agile and dynamic digital content, e.g. personal branding or recommendation (Word-of-Mouth) introductory videos in the personal profile section. Similar to the personal introduction in Face-to-Face meetings, *personalised* videos would allow SNS users to establish eminence in their particular business field by giving a more realistic first impression than their current static SNS profiles. Similar to Face-To-Face meetings, personalised videos would allow obtaining additional cues like body language, voice, eye contact, etc. which are critical for an 'accelerated and comprehensive business fit'.

Moreover, the *content* of corporate websites might be tailored to the business challenges of prospective decision-makers rather than just involving general success stories featuring B2B-solutions and services. In line with Järvinen and Taiminen (2016); Salo (2017) the development of *buyer-engaging content* is instrumental in driving business performance. Creating *relevant* content would compare to B2B-word-of-mouth recommendations being tailored to the specific requirements of B2B-decision-makers.

Table 6.1 Importance of Media as B2B-Decision-Making-Support Tools

Media	Item	Media Type	FRQ $N_T=530$	Valid Pct.	Rank N_T	FRQ $N_V=188$	Valid Pct.	Rank N_V	FRQ $N_{TP}=235$	Valid Pct.	Rank N_{TP}	FRQ $N_B=107$	Valid Pct.	Rank N_B
Trad.	Info1	Word-of-Mouth	385	72.6%	2	135	71.8%	2	170	72.3%	2	80	74.8%	2
	Info2	Face-to-Face	409	77.2%	1	144	76.6%	1	184	78.3%	1	81	75.7%	1
	Info3	Tech/BIZ Magazine	68	12.8%	10	26	13.8%	9	27	11.5%	10	15	14.0%	8
	Info5	Email, Newsletter	93	17.5%	9	28	14.9%	8	50	21.3%	6	15	14.0%	9
	Info9	KMS	111	20.9%	6	53	28.2%	5	38	16.2%	7	20	18.7%	6
	Info10	Brochure	121	22.8%	5	41	21.8%	7	51	21.7%	5	29	27.1%	5
Soc.	Info4	Webinar	95	17.9%	7	44	23.4%	6	35	14.9%	8	16	15.0%	7
	Info6	Blog, Microblog	93	17.5%	8	18	9.6%	11	29	12.3%	9	10	9.3%	10
	Info7	Facebook (SNS)	34	6.4%	11	10	5.3%	12	16	6.8%	12	8	7.4%	12
	Info8	LinkedIn/XING (SNS)	251	47.4%	3	86	45.7%	3	128	54.5%	4	37	34.6%	4
	Info11	Corp. Web site	213	40.2%	4	79	42.0%	4	95	40.2%	3	39	36.4%	3
	Info12	YouTube Channel	52	9.8%	12	24	12.8%	10	18	7.7%	11	10	9.3%	11

Frequency (FRQ) displays the number of the Information source mentioned for the total and the three subsamples.

It was not surprising that traditional *Face-to-Face* and *Word-of-Mouth* were primarily perceived as critical information sources for the B2B-decision-making process throughout the samples. This outcome is in line with a recent IBM CMO study according to which most Chief Marketing Officers rely on traditional market-based information sources in their strategic decisions since they have not yet recognised the relevance of Social Media in the B2B-context characterised *by Face-To-Face* (Bernard, 2016). Thus, the recommendation is to focus the efforts on these media critical to the B2B-decision-making process.

Among the Social Media, both *Social Networking Sites* and *Corporate Web sites* were prevalent. A reason for this might be that they fulfil a comparable purpose like their traditional counterparts. Respondents of the buyer sample considered *Corporate Websites* slightly more critical than *Social Networking Sites* which were most frequently mentioned in the vendor and third-party sample. On the other hand, the outcome for *Blogs* and *Microblogs* was somewhat disillusioning. Possible reasons might be new competitive applications, e.g. Facebook Messenger or WhatsApp which were *not* part of this research.

Likewise, the sobering outcome for Facebook and YouTube might be due to the following reasons for their less relevant role in B2B-decision-making. Both media contain excessive private content, sometimes inaccurate and irrelevant information which might undermine the credibility of these media as decision-making support tools. Though, these media are used in B2B to reach broad target groups, distribute company information and share video content (Aichner and Jacob, 2015; Andersson and Wikström, 2017) they seem to be primarily suitable for the marketing of Small Businesses and B2C customers (Batum and Ersoy, 2016).

The following graphic demonstrates the varying proportions of the three most relevant media which had to add up to 100%. The fourth most relevant media was just included for illustrative purposes. The remaining Traditional and Social Media were combined into two groups because of their relatively minor influence as information sources. It was evident from the mean values that for decision-making relevant information the respondents rely first and foremost on traditional approaches like Face-To-Face and Word-Of-Mouth. This is in line with De Ruyter et al. (2001) since especially in high tech markets face-to-face contacts and recommendations are viewed as the most important source of information.

Social Networking Sites assumed a credible role while the remaining media were only of subordinate importance. However, the outcome marked clear divergences reflected in the *relatively high* SD values.

Figure 6.4 Impact of the Leading Media on the B2B-Decision-Making Process
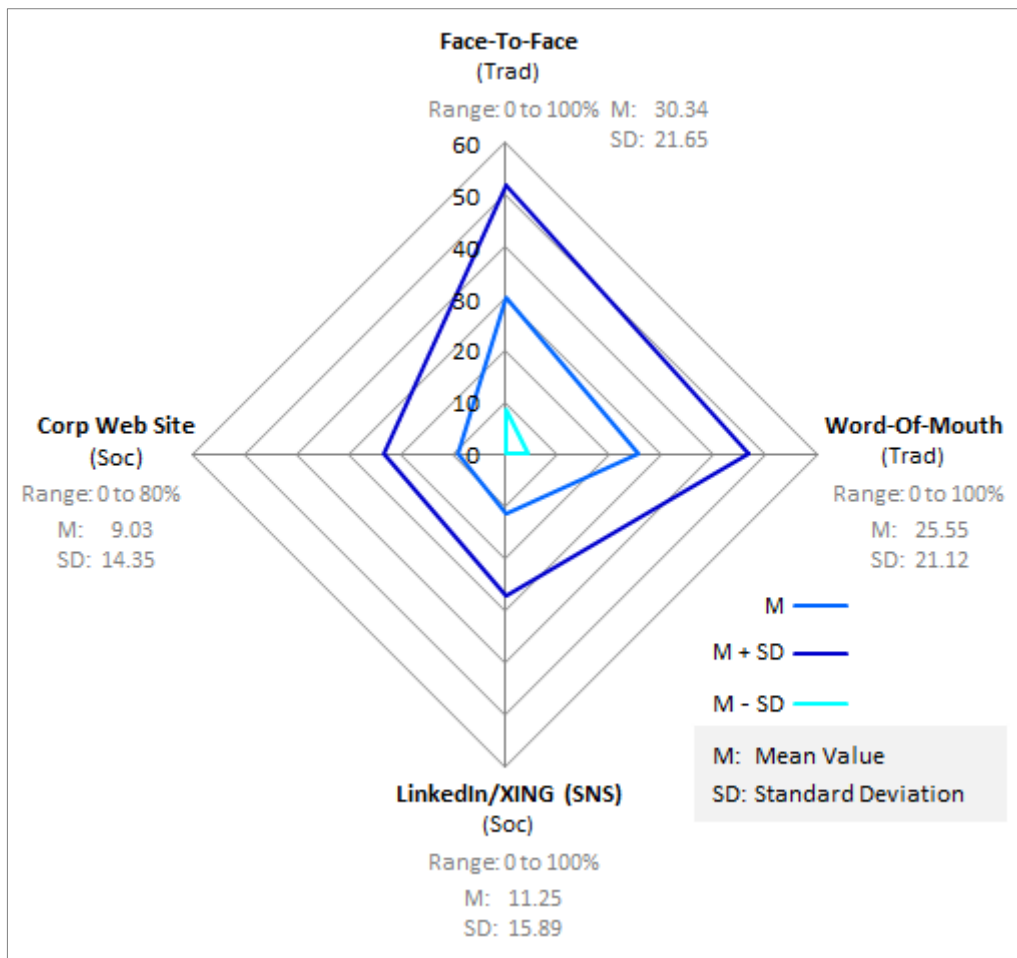
6.2 Layers of B2B-Business Decisions

Question 2g aimed at identifying the levels of the multi-layered B2B-Business decision-making. Thereby, the respondents should estimate how much of their decisions involved rational logic, emotions and intuition. This question seemed justified against the background of designing the content on Social Media relevant to B2B-decision-makers.

For example, *blogs* and *microblogs* are regularly read by C-Suite decision-makers and provide touch points in B2B-Business Development to frequently exchange information. Gaining insight into the ratio of their decision-making layers would support in adjusting the content to the respective personal characteristics.

Figure 6.5 illustrates how B2B-executives tend to make their decisions. For example, vendors and third-party respondents reported involving rational logic, emotions and intuitions in a ratio of 4:3:3. Conversely, the buyer respondents tended to be *more rational* and *less emotional*, in a ratio of 5:2:3. Social Media media campaign might consider the ratios of the underlying decision-making layers to convey their messages more effectively to specific key contacts on the buyer side since the content is instrumental to sales opportunities (Järvinen and Taiminen, 2016; Salo, 2017).

Figure 6.5 The Layers of B2B-Decision-Making

Sample \ Layers	Rational	Emotional	Intuitive
Vendor	4	3	3
Third Party	4	3	3
Buyer	5	2	3

Median: The value below (and above) in which half the values in the sample distribution fall (50th percentile).
2 = 10%-20%; 3 = 20%-30%; 4 = 30%-40%; 5 = 40%-50%
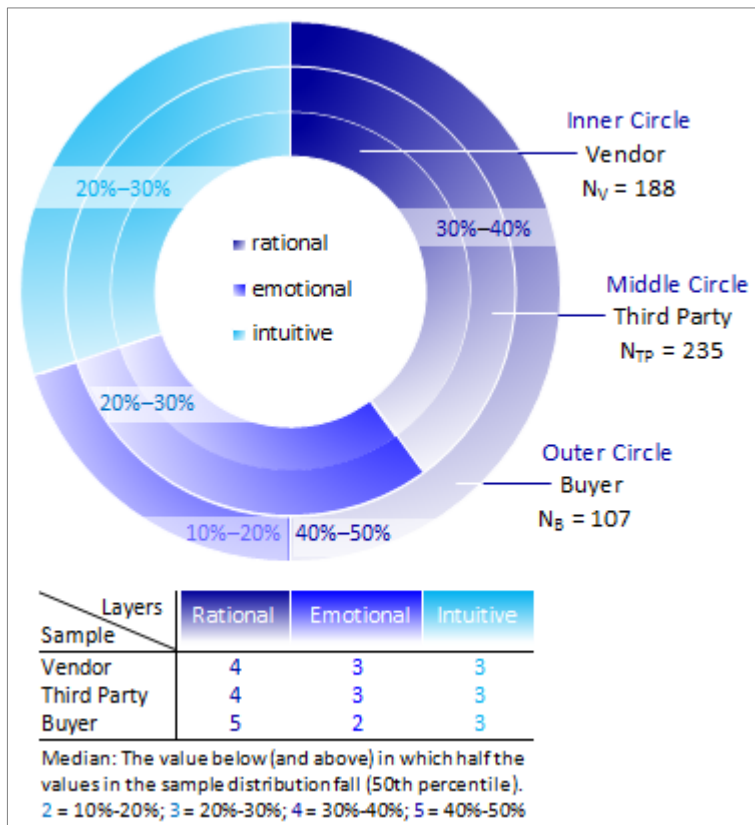
Several one-way between groups analyses of variance were conducted (one for each layer) to explore the levels of decision-making layers within the subsamples. Statistically significant differences at $p < .05$ were *only* observable for the first two layers of the subsamples: F (2, 527) = 3.9, p = .02 (*rational*) and F (2, 527) = 3.8, p = .02 (*emotional*).

Despite the statistical significance the *actual* differences in the mean scores between the groups were *minor*. The *effect size*, calculated using *eta squared* (Sum of Squares between groups/Total Sum of Squares) resulted in .01 for both, the *rational* and *emotional* layer.

Post-hoc comparisons using the *Tukey HSD test* indicated that the mean score for the third-party sample (*M* = 4.09, *SD* = 1.99) differed *significantly* from the buyer sample (*M* = 4.73, *SD* = 2.12) for the *rational* layer. Similarly, the mean score for the third-party sample (*M* = 2.89, *SD* = 1.75) was significantly different from the buyer sample (*M* = 2.34, *SD* = 1.68) for the *emotional* layer.

However, the vendor sample did *not* differ significantly from either the buyer or third-party sample. This applied to the *rational* (*M* = 4.36, *SD* = 1.86) and *emotional* (*M* = 2.74, *SD* = 1.75) layer. These decision-making layers were also explored to identify potential differences between the regions. Despite the statistical significance, the actual difference between the means .758 of the NA and DACH regions was rather small with an *effect size* (eta squared) of .04.

The post-hoc comparison (Tukey HSD) test indicated that the mean value for the *intuition* layer was significant stronger emphasised in the NA region (*M* = 3.60, *SD* = 1.65) compared to the DACH region (*M* = 2.84, *SD* = 1.40).

However, there were differences in the *emotional* versus the *intuitive* layer proportion in the DACH compared to WE and NA regions. Obviously, the *intuitive* layer was more pronounced in the WE and NA regions whereas the *emotional* layer was stronger in the DACH region.

This particularity suggested *strategic recommendations* and *practical guidelines* aligning the *social media content design* in the proportion of the three decision-making underlying characteristics and heed regional specificities.

Table 6.2 Average Proportions of the B2B-Decision-Making Layers

Region	Decision Layer	Vendor (N_V = 188)	Third Party (N_{TP} = 235)	Buyer (N_B = 188)	Total (N_T = 530)
DACH Ratio R: E: I = 4:3:3	Rational	44.9	40.3	50.4	44.0
	Emotional	28.9	30.9	22.9	28.6
	Intuitive	26.2	28.8	26.7	27.4
	Total	100.0	100.0	100.0	100.0
WE Ratio R: E: I = 4:3:3	Rational	41.8	45.2	47.2	44.7
	Emotional	25.7	24.0	23.2	24.3
	Intuitive	32.5	30.8	29.6	31.0
	Total	100.0	100.0	100.0	100.0
NA Ratio R: E: I = 4:3:3	Rational	42.6	36.0	43.5	40.0
	Emotion	23.9	27.8	20.9	25.1
	Intuitive	33.5	36.2	35.6	34.9
	Total	100.0	100.0	100.0	100.0
Ratio		4 : 3 : 3	4 : 3 : 3	5 : 2 : 3	Sample

6.3 Perceived Benefits and Impact of Social Media on Performance

Questions 4g–4h dealt with the more deterministic, i.e. perceived, *definitely yes*, or probabilistic, i.e. expected, *probably yes*, benefits and the estimated ultimate impact of *Social Media Business Usage* on *Business Performance* (percentage brackets) within a given period (fiscal year). These questions aimed at quantifying the *perceived* and *expected* outcome from the practitioner viewpoint to understand whether vendor, third-party and buyer participants perceived this media to be of *similar* or *different* relevance.

A clear majority of more than four-fifths (81.9%) of the vendors *noticed* or *expected* benefits of Social Media Business Usage to *accelerate* B2B-Business Development/Sales processes. Only a minority (18.1%) did neither perceive nor expect any benefits of Social Media Business Usage at this time. The median estimate among the vendors (N_V = 188) for a given period was in the bracket > 5% to ≤ 10% more impact on performance. However, more than one-fifth (22.3%) of the vendors were *unable* or *unwilling* to provide an estimate of the ultimate impact (don't know at all).

Among the third-party (N_{TP} = 235) the majority who *perceived* or *believed* in benefits was even higher (83.0%) versus 17% who *doubted* or *did not perceive* any benefits. Likewise, the median estimate of the ultimate impact on performance was rated by third-party participants more optimistically, i.e. *above 10%* ultimate impact which represented the *maximum* median estimation. Less than one fifth (19.6%) did *not* disclose any estimate at all.

In contrast, only about three of five (59.8%) buyers (N_B = 107) *perceived* or *believed* in any benefits of Social Media Business Usage to *speed up* the B2B-purchasing/procurement processes. The remaining two of five (40.2%) did n*ot even perceive* or *expect* any benefits of Social Media Business Usage. The median estimate of the ultimate impact of Social Media on Business Performance was in the *range of 5% to 10%*. Surprisingly, nearly one third (30.8%) did *not* provide an estimate. This outcome indicated a *gap on the buyer side* with respect to Social Media *perception* and *expectations*. Therefore, it was suggested *building awareness of the relevance of Social Media* among buyers to diminish or close this gap to vendors and third-party.

Figure 6.6 Perceived/Expected Benefits and Impact of Social Media on Performance
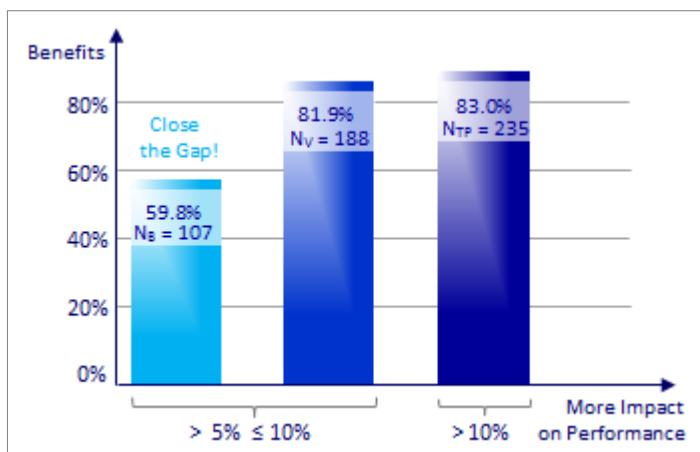
The outcome illustrated above indicated that *third-party* even before vendors participants clearly *perceived* or at least *expected* certain benefits of Social Media Business Usage and were also the *most willing* to disclose any estimates relating to the ultimate impact of Social Media Business Usage on Business Performance.

6.4 Average Annual Volume of Software Transactions

Taking into account the respondents who disclosed the average annual volume of sold/purchased B2B-Software Services and Solutions a *slightly different* situation occurred.

The response rate of *vendors* surpassed the ones of buyer and third-party respondents. For the vendor and buyer samples, the median values pointed to the highest bracket compared to a far smaller bracket for the third-party sample (Figure 6.7).

Figure 6.7 Annual Deal Size of B2B-Software Services and Solutions (Response Rates)

SW Deal Size	Vendor	Third Party	Buyer
≤ 49K $,£,€ (1)	11 (5.9%)	47 (20.0%)	20 (18.7%)
≤ 99K $,£,€ (2)	10 (5.3%)	26 (11.1%)	11 (10.3%)
≤ 299K $,£,€ (3)	14 (7.4%)	24 (10.2%)	9 (8.4%)
≤ 599K $,£,€ (4)	9 (4.8%)	12 (5.1%)	4 (3.7%)
≤ 999K $,£,€ (5)	14 (7.4%)	6 (2.6%)	4 (3.7%)
≥ 1MM $,£,€ (6)	86 (45.7%)	43 (18.3%)	28 (26.2%)
Missing Values	44 (23.4%)	77 (32.8%)	31 (29.0%)
Total	188 (100.0%)	235 (100.0%)	107 (100.0%)
Median; Modus	(6); (6)	(3);(1)	(6); (3)
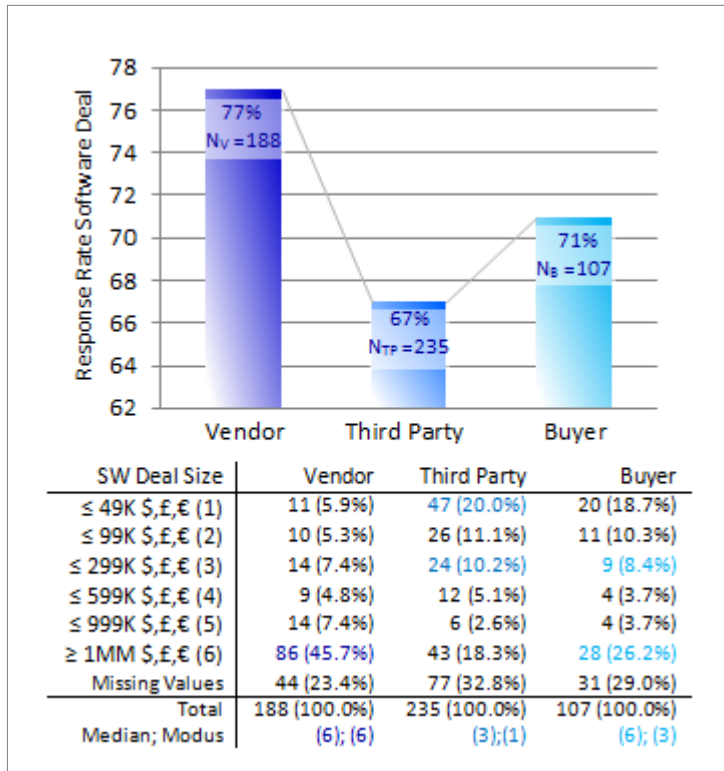
The total sample (N_T = 530) revealed that at least 152 respondents *refused* to provide any purchase or sales volume information about their B2B-Software Solution and Services. It was noticeable that the lack of transparency generally did not apply to respondents of the lowest (under 50K) and highest (1MM+) brackets. From their business volume, 157 respondents belonged to the *highest bracket* (exceeding 1MM) while the second most answers referred to the *minimum bracket* (business volume less than 50K). The median was reached in the fourth bracket (business volume between 300K up to 600K).

Overall, the response rates were *better* than initially expected. The *high* response rate of the respondents belonging to the *lowest* bracket was *entirely unexpected* because of the *restricted access* to private company data. By contrast, the *high* response rate referring to the *highest* bracket was *not surprising* since it was about information which is *publicly available* through the access to company databases or annual reports online. Notably, the fact that the respondents of the *lowest* bracket provided this type of information *freely* derives a recommendation to practitioners to leverage the *information accessibility and willingness to provide information* from this particular group.

Industry relevant small and mid-sized businesses might be developed for the future by capturing their contact data in the form of Social Capital. These contacts can be activated to access information which might not be publicly accessible for Business Developers and/or develop relationships with *hidden champions*. Mainly, in the DACH region small and middle-sized companies (*hidden champions*) often represent take-over candidates of current or targeted clients.

Thus, these businesses might provide the relevant information or key contacts, e.g. to speed up the RFI/RFI processes and being favourably shortlisted.

Independent-samples *t*-tests to compare the average software deal sizes between the three samples indicated a significant difference in the means exclusively for the vendor and buyer respondents. Vendors (*M* = 4.83, *SD* = 1.70) and Buyers (*M* = 3.59, *SD* = 2.12; *t* (126) = 4.39, *p* = .00 (two-tailed). The magnitude of the differences in the means (mean difference 1.23, 95% CI: .678 to 1.79) was rather *moderate* (eta squared = .08).

6.5 Estimation of B2B-Business Process Cycle Times

Questions 4h–4i aimed at addressing the research challenge and whether the *duration* of the B2B-Business Development, respectively B2B-Buying or Procurement processes, might be reduced by Social Media business usage against the average benchmark of 17 months mentioned by Stein (1996); Gronau (2001).

These questions were posed exclusively to vendor, third-party and buyer respondents in *separate* sections of the survey. To obtain the best possible outcome, the same content was presented in a slightly different format.

In Question Q4h, the respondents were required *to* estimate *the average process times* by providing intervals ranging from a *minimum of fewer than 6 months* to a *maximum of 36 months and more*. In Question Q4i, the respondents used *two sliders* to estimate the *minimum* and *maximum* duration of the B2B-Business Development, Sales, Procurement or Purchasing processes. While in Question Q4h 13.8% of the vendors chose *not* to answer the questions (Option: *Don't know at all*), the response rate was *appreciably higher* in Question Q4i. Only 3.2% of the vendor respondents did *not* respond, i.e. *both sliders values were set to 0*. Possible reasons for the higher participation rate in Question Q4i might well be that firstly, the minimum/maximum process durations are commonly known.

Secondly, the respondents might have perceived the sliders as more *user-friendly* or *playfully* in comparison to Question Q4h which required the computation of average process values.

The answers in Question Q4h indicated that nearly half (49.4%) of the vendors (N_V = 188) estimated the length of the B2B-Business Development/Sales processes between one and two years. The median duration was from *one year* to *less than one and a half year*. Question Q4i demonstrated that the average duration ranged from a minimum average of *approximately seven months* to a maximum average of *about 26 months*. The computed average duration of both slider values ∑(DurMin + DurMax)/2 approximated *16,5 months* which was *slightly below* the average benchmark in the literature (e.g. Gronau, 2001).

The responses in Question Q4h suggested that for the third-party participants (N_{TP} = 235) six out of ten respondents (60.9%) estimated the length of B2B-Business Development Sales processes *up to twelve months*, whereby the median duration was *from six to twelve months*.

As stated before, the response quote of those which did *not* answer Question Q4h was also substantially higher than in Question Q4i, 17.4% versus 3.0%. The answers to Question Q4i revealed that the average length varied from a minimum average of *nearly six months* to a maximum average of *about 22 months* with a computed average of *14 months*.

The outcome for the buyer respondents ($N_B = 107$) indicated that more than seven of 10 respondents (72.0%) estimated the length of the B2B-Procurement/Purchasing processes *within 12 months*. The response rate of the buyers which did *not* answer Question Q4h was *slightly lower* than in the other samples. The B2B-Procurement/Purchasing processes ranged in average from a *minimum* of *6.76* to a *maximum* of *18.32 months* with a mean of *12.1 months*.

Overall, the *identified differences* in the B2B-Business Process Cycle Times as illustrated below suggested enhancing their *alignment* for example by rendering B2B-Business Development/Sales activities more agile and speedier through the inclusion of suitable Social Media and their targeted deployment within the various process phases.

Figure 6.8 Average B2B-Business Process Cycle times within the Literature and the Samples
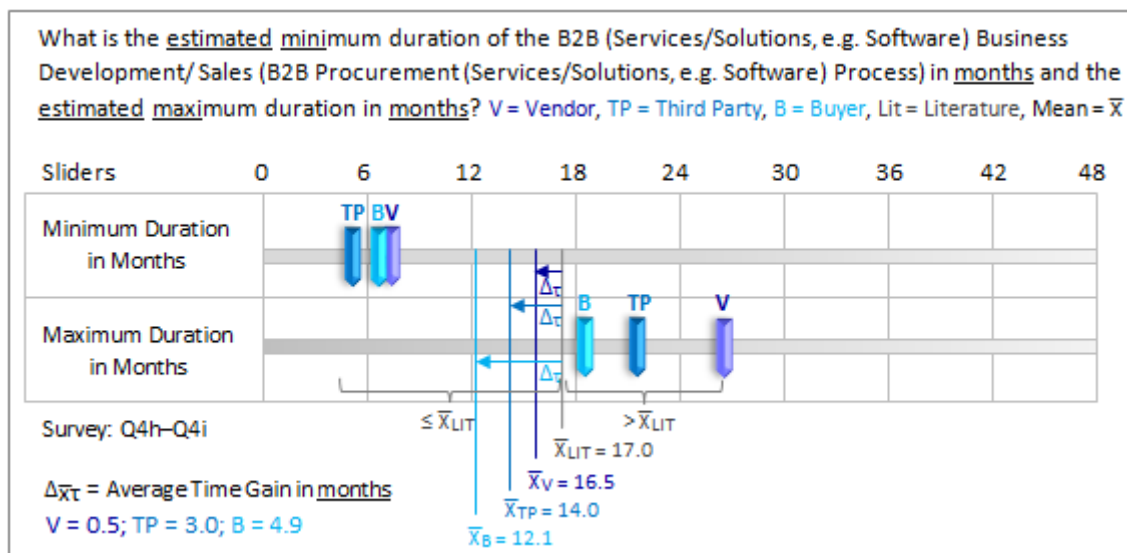
6.6 Preferred Platforms in the B2B-BD Process Phases

Question Q2e SMP, Platform BD I–IV, sought to answer *which Social Media platforms*, were regarded to be particularly *suited* during the Business Development process throughout the samples. Out of a pre-selection of Social Media platforms, respondents were asked to assign the media which *fitted best* to the individual B2B-Business Development process phase.

Thereby, *SMP1* referred to the Social Networking Sites (LinkedIn/XING, Facebook), *SMP2* to Company website subscriptions and blogs, *SMP3* to CRM systems (e.g. Salesforce) combined with Social Networking Sites, and *SMP4* to Others (Google Plus, Twitter, Wikipedia, and YouTube). The findings might provide practitioners with *managerial guidelines* on what media platform might be the most suitable to whom in which process phase.

The purpose was to develop a **S**ocial **B**usiness **R**elevance **I**ndex (SBRI) which tracks the *relevant fit of suitable Social Media platforms* across the various process phases or suggests an *optimised Social Media platform mix* for a particular process phase. The SBRI provides information about the degree of Social Media Platform utilisation and ranges from 0 to 1.

The ranking of the particular platform was determined as a function of the *frequency* of being mentioned (*usage intensity*) *within a particular phase*, the *entire process* and *in relation to the other platforms*. The indices were computed according to the following formulae.

$$SBRI_i = \sum_{i=1}^{m} \sum_{j=1}^{n} SMP_i BD_j \times w_{ij} \rightarrow opt! \quad SMP_i \text{ Social Media Platform}_i \quad BD_j \text{ Process Phase}_j \quad \text{Weight } w_{ij}$$

$\sum_{i=1}^{m} BD_j SMP_i \times w_{ij}$ Social Business Relevance Index (SBRI) across all i Social Media platforms for a specific Business Development process phase j.

$\sum_{j=1}^{n} SMP_i BD_j \times w_{ij}$ Social Business Relevance Index (SBRI) across all j Business Development process phases for a specific Social Media platform i.

Weight Interval: $0 \leq w_{ij} \leq 1$

Table 6.3 – 6.4 illustrates the outcome of *both aspects* of the **S**ocial **B**usiness **R**elevance **I**ndex based on the computation evidenced in Table 6.5,205 for the example of $N_T = 530$.

Table 6.3 SBR Indices for each BD Process Phase across all Social Media Platforms

$\sum_{i=1}^{4} BD_j SMP_i \times w_{ij}$

Sample	$N_T = 530$	$N_V = 188$	$N_{TP} = 235$	$N_B = 107$
BD1	.29 ACBD	.30 ACBD	.32 ACBD	.28 ABCD
BD2	.27 BACD	.27 BACD	.28 BACD	.26 CABD
BD3	.33 ACBD	.33 ACBD	.33 ACBD	.31 ACB*
BD4	.27 ADBC	.29 BCAD	.27 ACBD	.26 ACBD

Example: Rating ACBD [SMP1 (A); SMP2 (C); SMP3 (B); SMP4 (D)]
* SMP4 for BD3 was not mentioned in the Buyer Sample.

Table 6.4 SBR Indices for each Social Media Platform across all BD Process Phases

$\sum_{j=1}^{4} SMP_i BD_j \times w_{ij}$

Sample	$N_T = 530$	$N_V = 188$	$N_{TP} = 235$	$N_B = 107$
SMP1	.66 ABAA	.62 ABAB	.69 ABAA	.66 ACAA
SMP2	.22 CACC	.20 CACC	.21 CACC	.20 BACC
SMP3	.27 BCBB	.36 BCBA	.20 BCBB	.27 CBBB
SMP4	.02 DDDD	.02 DDDD	.02 DDDD	.03 DDDD

Example: Rating ABAA [BD1 (A); BD2 (B); BD3 (A); BD4 (A)]

It could be noticed that across the samples the process phases *BD1* and *BD3* usually had *higher* SBR Indices, which was somehow expected for the following reasons.

Initially, various Social Media Platforms are increasingly used in the *first BD process phase* to reach out to key decision-maker for the purpose of *contact information* and *social exchange* (Salo, 2017). Also, the *third BD process phase* is characterised by Social CRM systems, i.e. *Customer Relationship Management Systems* (e.g. Salesforce) which are supplemented by Social Media Technology (Rodriguez et al., 2014).

The outcome above demonstrated that *Social Networking Sites* (SNS) naturally dominated *all* B2B-Business Development process phases while the other platforms played a distinctly lesser relevant role with *one* exception. In the vendor sample, the Social CRM reached .36. These results showed that there was still a *higher potential* for Social Media Business Usage. This opens the way for *building awareness* on how to leverage specific Social Media platforms within the various BD process phases.

Table 6.5 on page 205 illustrates the responses of the total sample N_T = 530 for each of the Social Media platforms across the B2B-Business Development process cycle (*vertical* view) and for the platforms for each individual B2B-Business Development process phase (*horizontal* view). For the *first Social Media platform* and for the *first BD process phase* the computation of the Social Business Relevance Index was explained.

The results, e.g. BD_1SMP_j of .29 (*minor relevance*) and SMP_1BD_j of .66 (*medium relevance*) demonstrated that there is still *potential* to *optimise the Social Business Relevance indices*.

The indices provide practitioners with *operative metrics* on how to evaluate specific Social Media platforms in light of the requirement of *particular* B2B-Business Development process phases and the B2B-Business Development process *in its entirety* to ensure the optimal fit which addresses a future research suggestion by Agnihotri et al. (2016).

Additionally, the indices might serve as a *benchmark* for professionals to choose the *individual* Social Media *platform* or *combination* which best matches their processes (Media-Task-Fit) (Wang et al., 2017). Moreover, it supports the decision on the *intensity level* of a particular media platform applied during the B2B-Business Development process phases.

Most importantly, it enables practitioners to *choose* the Social Media platform which *best fits* their motivational structure regarding their individual B2B-Business Development approach (Media-Motivation-Fit) – discussed in greater detail in Section 6.7. Other conceivable options include the *usage differentiation* according to the *requirements* of specific functions such as Marketing, Sales or Purchasing or as proposed by Fatemeh et al. (2015) to the individual content design needs of key decision-makers.

Overall, these indices represent innovative options to commit and train practitioners to implement Social Media into their corporate strategy and tap their full potential (Buehrer et al., 2005; Michaelidou et al., 2011; Andersson and Wikström, 2017).

Table 6.5 Relevance of Social Media Platforms in the B2B-Business Development Process Phases

Platform / BD Process Phase	SMP1 Social Networking Sites: LinkedIn, XING, and Facebook		SMP2 Company Website Subscription, and Blog		SMP3 CRM System combined with Social Networking Site		SMP4 Other Platforms: Google Plus, Twitter, Wikipedia, You Tube		SMP9 Not Applicable	Total
BD I Identify + prospect potential buyers $N_T = 530$ (100.0%)	249 (47.0%)	A	91 (17.2%)	C	116 (21.9%)	B	34 (6.4%)	D	40 (7.5%)	530 (100.0%) ACBD
	Frequencies	Ranking	Frequencies	Ranking	Frequencies	Ranking	Frequencies	Ranking	Frequencies	
BD II Share information + maintain knowledge $N_T = 530$ (100.0%)	138 (26.0%)	B	191 (36.0%)	A	115 (21.7%)	C	42 (7.9%)	D	44 (8.3%)	530 (100.0%) BACD
	Frequencies	Ranking	Frequencies	Ranking	Frequencies	Ranking	Frequencies	Ranking	Frequencies	
BD III Build social networks + manage existing relations $N_T = 530$ (100.0%)	321 (60.6%)	A	37 (7.0%)	C	118 (22.3%)	B	14 (2.6%)	D	40 (7.5%)	530 (100.0%) ACBD
	Frequencies	Ranking	Frequencies	Ranking	Frequencies	Ranking	Frequencies	Ranking	Frequencies	
BD IV Increase the number of leads + opportunities $N_T = 530$ (100.0%)	201 (37.9%)	A	63 (11.9%)	C	166 (31.3%)	B	23 (4.3%)	D	77 (14.5%)	530 (100.0%) ACBD
	Frequencies	Ranking	Frequencies	Ranking	Frequencies	Ranking	Frequencies	Ranking	Frequencies	
Total	909 (42.9%) 171.5% of Cases	ABAA	382 (18.0%) 72.1% of Cases	CACC	515 (24.3%) 97.2% of Cases	BCBB	113 (5.3%) 21.3% of Cases	DDDD	201 (9.5%) 37.9% of Cases	2120 (100.0%) 400.0% of Cases
Assessment	Highly Relevant		Partial Relevant		Slightly Relevant		Less Relevant		Not Applicable	

The Ranking of A to D was determined by the frequencies of mention in the survey with A representing the highest frequency to D the lowest frequency of mention. The weights assigned to the rankings were .4 to A, .3 to B, .2 to C, and .1 to D. The Social Business Relevance Index (SBRI) for the Social Media Platforms can be determined by adding the weighted result for each platform separately across the four process phases, i.e. SBR SMP1. The rating of ABAA equals the amount of .47 x .4 + .26 x .3 + .61 x .4 + .38 x .4 (across the vertical of the table). The values range from 0.0 'no relevance' to 1.0 'high relevance' with .66 indicating medium relevance. The computation of the SBR Index for the particular BD Process Phase, i.e. SBR BDP1 (across the horizontal of the table) resulted in the rating of ACDB and the Index of .47 x .4 + .17 x .2 + .22 x .3 + .06 x .1 was .29. This outcome suggested rather a minor relevance. The SBR Index for SMP1 of 66% implied that the usage of SNS might be increased. The SBR Index for the first BD I process phase of 29% indicated a potential to increase the usage of Social Media Platforms.

6.7 Motivational Driving Forces of Social Media Business Usage

Table 6.6 displays the answers to Question Q4g concerning the *motivation* to apply Social Media for business purposes. The answers were re-coded into the categories, i.e. *High*, *Normal*, *Low* or *No motivation*. *Networking* reached the *highest* values (Rank 1), followed by *branding* (Rank 2), while *process agility* contained the *lowest* values (Rank 3) in all three categories of the motivational driving forces. While *networking* was heavily favoured among respondents of the vendor and buyer sample, it was closely followed by *branding* in the third-party sample while the other subsamples indicated a noticeable gap. It was evident that *process agility* was *most critical* for vendor respondents, while it was only of *medium* importance to motivate third-party respondents. In contrast, most buyers attached little importance to *process agility*. Overall, the respondents who were *not* motivated to use any Social Media for business purposes fluctuated from 2.1% to 15.9% with the most substantial gap among the buyer respondents.

Table 6.6 Motivational Drivers of Social Media Business Usage

Sample \ Drivers	$N_T = 530$	$N_V = 188$	$N_{TP} = 235$	$N_B = 107$	SBD$_i$N$_j$
Networking (100.0%) Rank: 1	High: 321 (60.6%) Normal: 148 (27.9%) Low: 46 (8.7%) No: 15 (2.8%) Median; Mode (1;1)	High: 129 (68.6%) Normal: 37 (19.7%) Low: 17 (9.0%) No: 5 (2.7%) Median; Mode (1;1)	High: 138 (58.7%) Normal: 75 (31.9%) Low: 17 (7.2%) No: 5 (2.1%) Median; Mode (1;1)	High: 54 (50.5%) Normal: 36 (33.6%) Low: 12 (11.2%) No: 5 (4.7%) Median; Mode (1;1)	.7017 ≈ .70
Branding (100.0%) Rank: 2	High: 288 (54.3%) Normal: 166 (31.3%) Low: 52 (9.8%) No: 24 (4.5%) Median; Mode (1;1)	High: 113 (60.1%) Normal: 51 (27.1%) Low: 17 (9.0%) No: 7 (3.7%) Median; Mode (1;1)	High: 136 (57.9%) Normal: 73 (31.1%) Low: 16 (6.8%) No: 10 (4.3%) Median; Mode (1;1)	High: 39 (36.4%) Normal: 42 (39.1%) Low: 19 (17.8%) No: 7 (6.5%) Median; Mode (2;2)	.5748 ≈ .57
Agility (100.0%) Rank: 3	High: 164 (30.9%) Normal: 197 (37.2%) Low: 123 (23.2%) No: 46 (8.7%) Median; Mode (2;2)	High: 70 (37.2%) Normal: 69 (36.7%) Low: 37 (19.7%) No: 12 (6.4%) Median; Mode (2;1)	High: 80 (34.0%) Normal: 95 (40.4%) Low: 43 (18.3%) No: 17 (7.2%) Median; Mode (2;2)	High: 14 (13.1%) Normal: 33 (30.8%) Low: 43 (40.2%) No: 17 (15.9%) Median; Mode (3;3)	.3209 ≈ .32
N$_j$SBD$_i$	.5552 ≈ .56	.6508 ≈ .65	.5740 ≈ .57	.3726 ≈ .37	

The Rating was conducted based on the Median and Mode values. The recoded categories of AMOT1–AMOT3 were: 'High', 'Normal', 'Low' and 'No' Levels of Motivation. The percentage values were the valid ones. The assigned weights were .4 for 'High', .3 for 'Normal' and .2 for 'Low' and .1 for 'No'. The 'No' weight was deducted from the final outcome as an adjustment. The SBMI values can range from 0 (low) to 1 (high).

The definition of a **S**ocial **B**usiness **M**otivation **I**ndex (SBMI) aimed at identifying *for what purpose* a particular Social Media platform was currently *most frequently used* in business. The following formulae illustrate how the impact of the critical drivers was determined.

$$SBMI_i = \sum_{i=1}^{m} \sum_{j=1}^{n} SMD_i N_j \times w_{ij} \rightarrow opt! \qquad SMD_i \; \text{Social Media Driver}_i \quad \text{Subsample } N_j \quad \text{Weight } w_{ij}$$

$$\sum_{i=1}^{m} N_j SMD_i \times w_{ij}$$ Social Business Motivation Index (SBMI) across all i Social Media Drivers for a specific Subsample N$_j$.

$$\sum_{j=1}^{n} SMD_i N_j \times w_{ij}$$ Social Business Motivation Index (SBMI) across all Subsamples N$_j$ for a specific Social Media Driver i.

Weight Interval: $0 \le w_{ij} \le 1$

Thereby, the SBMI was determined across the *motivational drivers* (which might be extended from their number) and subsamples. It is conceivable to replace the existing subsamples by various functions or units of the company in comparable research projects.

The SMBI values for *networking* (70%), *branding* (57%) and *agility* (32%) clarified the underlying motivation level that influenced the Social Media Business Usage. The motivation for Social Media Business Usage *varied considerably* among the subsamples. It was observable that Social Media Business Usage was much *more important* to respondents of the vendor sample (65%) compared to the third-party (57%) and buyer samples (37%).

These findings were *partially* consistent with previous research by Brennan and Croft (2012); Rodriguez et al. (2014) suggesting that currently, *networking* was the most reliable motivational driving force to engage in Social Media Business Usage, followed by *branding.*

6.8 Integration of Social Media within the Organisation

Bernard (2016) noticed that a majority of B2B-CMOs still feel *underequipped* as an enabler of Social Media and that most B2B-organisations lack the skills for effective usage.

Question Q4e dealt with the actual issue of how Social Media Business Usage was *incorporated cross-functionally in the organisation*, e.g. between the Marketing and Sales or Procurement and Purchasing functions depicted below.

Figure 6.9 Social Media Efforts in Organisations

	$N_V = 188$	$N_{TP} = 235$	$N_B = 107$	$N_T = 530$	
	42.0%	43.0%	29.0%	39.8%	EFF1
	(79)	(101)	(31)	(211)	
	32.4%	29.8%	19.6%	28.7%	EFF2
	(61)	(70)	(21)	(152)	
	25.5%	27.2%	51.4%	31.5%	EFF3
	(48)	(64)	(55)	(167)	
	100%	100%	100%	100%	Total
	(3;3)	(2;1)	(2;1)	(2;1)	

(Median; Mode)
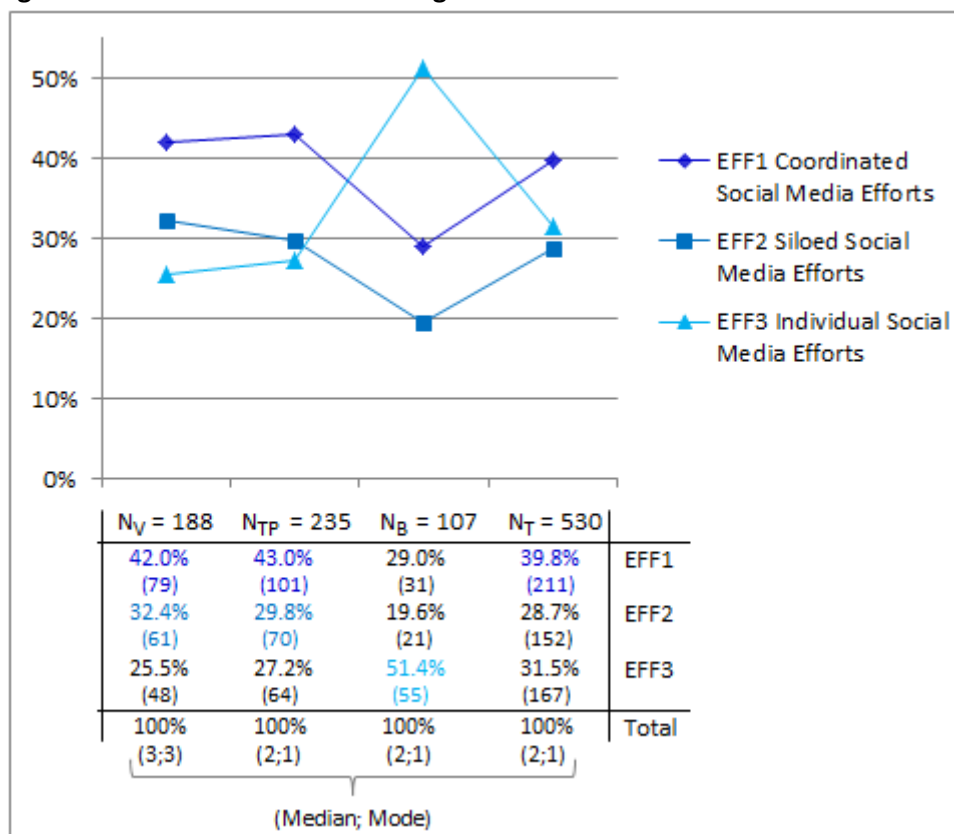
In practice, Social Media Business Usage might be *solely up to individual executives* like in smaller companies. Also, Social Media efforts might *be uncoordinated in isolated functional silos with few guidelines* in middle-sized companies or *coordinated among the various functions and regulated by clear guidelines* in larger corporations.

The results revealed a striking difference between vendors and third-parties compared to buyers. While respondents of the first two subsamples mostly indicated *to coordinate Social Media efforts by following guidelines*, the buyer sample showed that Social Media efforts were *primarily up to individual professionals*.

This raised the question whether the *company size* was statistically influential. The chi-square test for independence detected, however, only statistical significance for the total sample (χ^2 (6, n = 530) = 13.02, p = .043, *Cramer's V* = .111).

Both, *small-sized businesses* (< 50 employees) and *enterprises* (> 1,000 employees) demonstrated the *same* tendency for all efforts. Whether the Marketing and Sales respectively the Procurement and Purchasing functions *cooperated closely in Social Media efforts with clear guidelines*, *pursued these efforts independently from each other with some guidelines* or where *it was up to the individual professional*, the most responses originated from both extreme business-size categories. Finally, this question also provided insights to support the *liaison perspective* of B2B-Business Development to *streamline* Social Media efforts since most respondents of the vendor and third-party stated to *cooperate in their Social Media efforts by following a few guidelines*, whereas the *uncoordinated siloed approach* was less pronounced.

This finding demonstrated that there was still a pent-up demand for *coordinating Social Media efforts*, especially where they were left up to individuals like in smaller companies.

6.9 Classification of B2B-Business Development Executives

One of the practical contributions was the general classification of executives in *Cutting-Edge Advocates* and *Old-School Sceptics* Business Developers against the background of the assumption that the executives who engaged in Social Media might initiate disruptive, innovative processes and influence performance positively compared to those who insisted on traditional Media leaving the status quo unchanged with respect to B2B-Business Development.

Though the data allowed to transfer this classification or typology onto other executives (Marketing, Sales, Procurement, etc.) as well, it was demonstrated here for B2B-Business Development Executives *exclusively*. The purpose of the classification might provide practitioners with suggestions such as assembling more agile and qualified Business Development teams, identifying possibilities for personal development, training measures, and performance reviews which are replicable to other functions a well.

The analyses were conducted based on *non-judgmental considerations* because both extreme types merit respect as discussed before.

The respondents comprised of *mixed types* (based on the discussion, e.g. Chapter 6.1) were considered because they either *combined traditional and social media in their daily activities* or were at least *willing to consider social media* if training was provided by the company (Giamanco and Gregoire, 2012; Rodriguez et al., 2016).

Figure 6.10 depicts the B2B-Business Development executives types identified according to a flexible list of criteria represented by nine areas. This list was developed based on specific practitioner perspectives and suggestions in the literature (Appendices D14 and D16). It also attempted to define the types on a more diverse level than just based on Social Media Business Usage *Inclination* or *Hesitation*. The list of criteria is adjustable according to the specific job requirements within the organisational function here: Business Development.

Figure 6.10 Criteria for the Determination of B2B-Business Development Executives Types
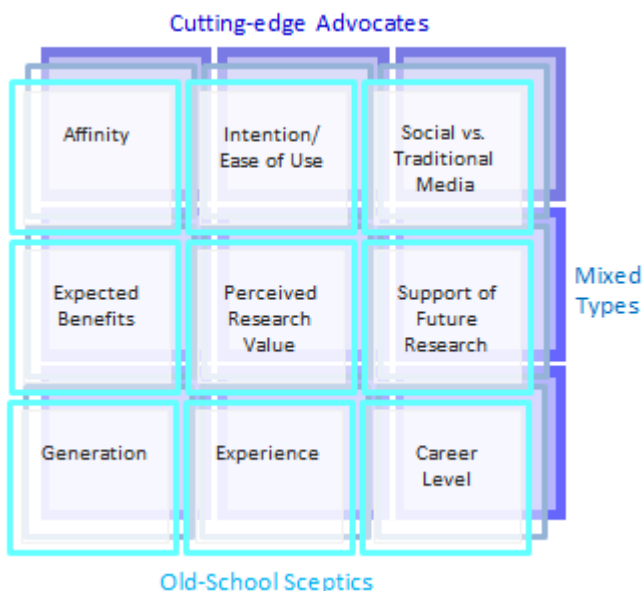
Approximately one out of five (19%) respondents of the total sample (N_T = 530) belonged to the B2B-Business Development function. The 102 Business Development Executives respondents originated mostly from the third-party (45%) and vendor sample (37%). They were highly underrepresented in the buyer sample (18%) which posed a limitation regarding the meaningfulness of the results.

The analysis of the *affinity* statements laid the foundation for determining the *two extreme types* of Business Development executives based on the fact that some executives deal in their intended/actual usage with business-related technology voluntarily even if this technology is not part of their job description. On the contrary, other professionals use technology involuntarily when the organisation requires it (Levin et al., 2012). The *mixed* type falls into the category where executives are inclined towards specific social media technologies while being reluctant to the use of other platforms.

Most Business Developers belonged to the *Cutting-Edge Advocates* in the vendor sample (55.2%). In contrast, the *Old-School Sceptics* were barely represented in all samples (< 5.6%).

The *Mixed Type* reflected a *more apparent trend* with one out of two (50.0%) B2B-Business Development executives in both the third-party and buyer samples compared to the vendor sample (39.5%) (Appendix N6). These findings gave rise to the presumption that Social Media Business Usage has found its way into the B2B-Business Development function.

To characterise the *three types* of B2B-Business Development executives in more detail, a series of chi-square tests were conducted to examine the underlying criteria depicted in Figure 6.10 above. The detailed findings are contained in Appendices N7–N9 and suggest the following conclusions summarised below.

Old-School Sceptics tended to be *mostly indifferent* towards Social Media *Intention* or *Ease of Use* while *Cutting-Edge Advocates* clearly favoured this media. It was apparent that even Traditional Media User did not deny the fact that Social Media *increasingly complemented* Traditional Media, whereas *Cutting-Edge Advocates* envision even the extreme digital scenario where Social Media *entirely substitute* Traditional Media.

Surprisingly, 60% of the *Old-School Sceptics* acknowledged a research value while this tendency was more evident with *Cutting-Edge Advocates* (90%). Consequently, the expected benefits of Social Media Usage were *most relevant* to the *Mixed Type* and *Cutting-Edge Advocates*. Likewise, a clear majority of *Mixed Type* and *Cutting-Edge Advocates* expressed their willingness to support similar research projects in the future.

Table 6.7 Characteristics of the Types of B2B-Business Development Executives

Characteristic Values Tendencies (Frequencies)	Old-School Sceptics (N_S = 5)	Mixed Type (N_{MT} = 47)	Cutting-Edge Advocates (N_A = 50)	Statistical Significance
Intention to Use	Indifferent	Agree	Agree	N
Ease of Use	Indifferent	Indifferent	Agree	N
Soc. Media vs. Trad. Media	(complements)	(complements)	(substitutes)	N
Expected Benefits	Irrelevant	Relevant	Relevant	Y
Research Value/No Value	60/40	51/49	90/10	Y
Support Future Research	Indifferent	Agree	Agree	Y
Roles & Responsibilities	Mixed	Mixed	Mixed	N
Generation	Gen X	Gen X	Gen X	N
Experience	<15 or > 30 Years	15–30 Years	15–30 Years	N
Current/Recent Career Level	Middle Mgmt.	Senior Mgmt.	Senior Mgmt.	N
Education	Higher	Higher	Higher	N
Professional History	Generalist	Generalist	Generalist	N
Software Deal Size	Small	Medium	Medium	N
N_T = 102	Tendencies were based on the maximum frequency within the ratio of a particular BD type for a specific characteristic value.			

Specific patterns unique to the types of B2B-Business Developers were *noticeable*, although the statistical significance was *only* achieved for the *highlighted* criteria above (Y = Yes). The analyses for the other criteria did *not* achieve statistical significance (N = No) though it *appeared plausible* to include them in the analyses based on the literature.

The main reason for this outcome might be that the *Old-School Sceptics* among the B2B-Business Developers were clearly *under*represented which caused various cells within the crosstabs to miss the expected minimum count (*violation of minimum requirements*).

For most criteria, the three types did *not* reveal any differences either. Especially, in terms of company size, the BD types did *not* reveal any statistical peculiarities.

Similarly, regarding the Social Media Business Usage which indicated 60% : 40% majorities for the extreme types: *Old-School Sceptics* (*low*) inversely to *Cutting Edge Advocates* (*high*).

Thus, the identification of the B2B-Business Development executive typology was only considered a *partial* success. There are *implications* for practitioners to focus their Social Media support efforts *primarily* on these executives who might be distinguished according to the criteria illustrated below.

Figure 6.11 Targeted B2B-Business Development Executives for future Research
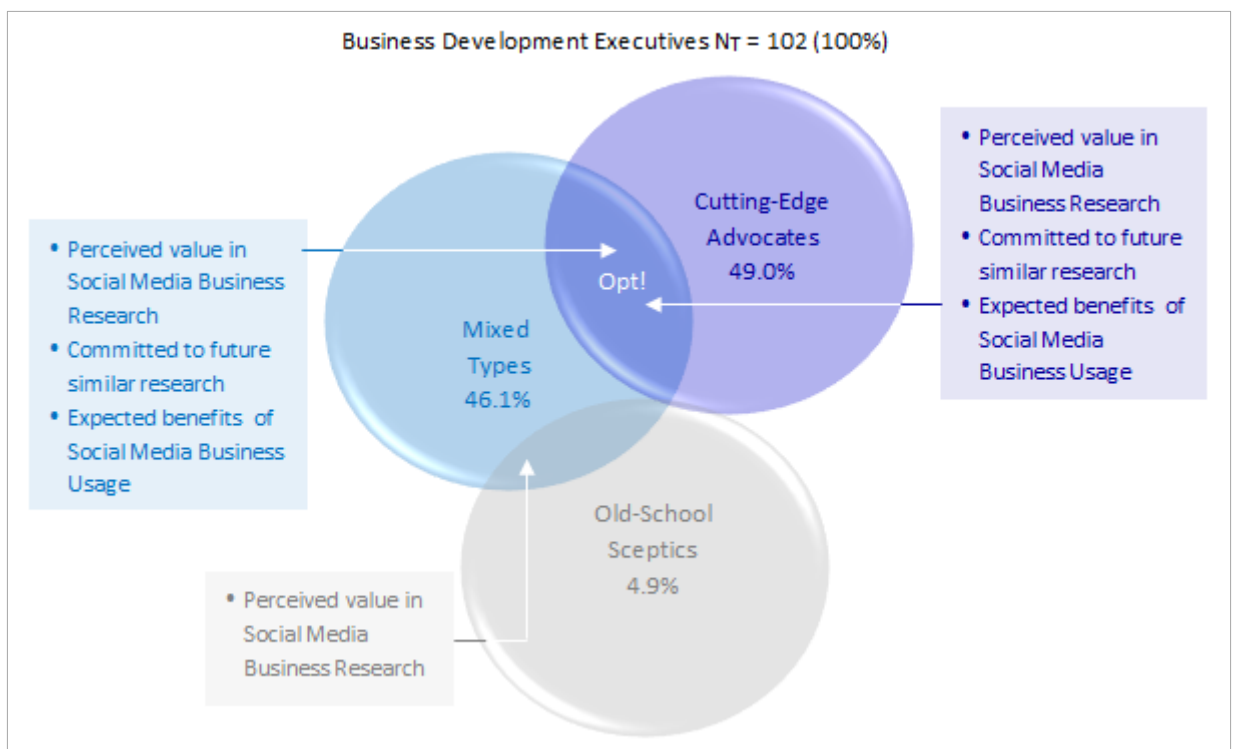
Those participants who expect benefits of Social Media Business Usage, perceived the value of Social Media-related research, and committed to similar projects in the future should primarily be included in further research projects.

For example, *Old-School Sceptics* and *Mixed Type* Business Developers who perceived value or committed to future research projects might be relevant being potential adopters once they become aware of Social Media Business Usage benefits. In contrast, *Old-School Sceptics* who neither expect any benefits nor perceived any value or even refused to participate in similar projects ought to be excluded right from the beginning to ensure gathering the most precise data.

6.10 Perceived Value of the Research

Executives from Microsoft, SAP and other global software companies signalled interest after the author received in February 2017 the 'Social Selling Award' by LinkedIn (Poster and Video Link, Appendix O2). The presentations during the ceremony about social selling, i.e. "a professional selling practice that is predicated on the strength of social media allies within a social enterprise" (Agnihotri et al., 2012,341) revealed that the research project was in line with the efforts of practitioners to redesign Business Development, Marketing and Sales processes by increasingly considering Social Media platforms.

Similarly to this doctoral research, LinkedIn developed a 'Social Selling Index' modelling certain process phases composed of 'creating a professional brand', 'finding the right people', 'engaging with insights', and 'building strong relationships'. The differentiation between *Advocates* and *Mixed Types of Business Development executives* can be understood from the *adoption curve concept* in analogy to social selling. While *innovators* and *early adopters* anticipated this concept by 2016, the *early majority* is expected to adopt Social Selling by 2018-2020 (LinkedIn, 2015). This indicates that 'Social Business Development' as one of the related concepts deserves closer attention.

An executive summary was promised for summer 2018 to motivate and recruit participants in the large-scale online survey. The findings of Question Q6a illustrated in Table 6.8,213 demonstrated how practitioners perceived the value of the research.

Only a *small* minority, nearly one out of four respondents, perceived the project as *extremely or very valuable*. Still, seven out of eight respondents considered it *at least to some degree valuable*, while a *clear* minority of 11.9% perceived *no value at all*.

A series of chi-square tests were conducted for *socio-demographic* and *organisation-specific criteria* evidenced in Appendix N1. The findings suggested only in isolated cases statistical significance whereas most results lacked significance. A major reason was the violation of the assumption concerning the 'minimum expected cell frequency' which should be either ≥ 5 or ensure that at least 80 percent of cells had expected frequencies of ≥ 5.

Question Q6b examined the *willingness to commit to similar research projects in the future*. The motivation behind this question was to receive cues whether the survey was experienced as (un)pleasant in terms of survey fatigue. The statistically significant findings (Appendices N2–N3) suggested that nearly 60% of those who perceived the research to some extent as valuable *showed interest in similar future studies* compared to about 30% who were *undecided*. Just less than 10% *refused* to participate in the future. Even 9 out of 63 respondents who did *not perceive any current research value* declared their *interest in similar future studies* versus 26 who remained *indifferent.*

Table 6.8 Perceived Value of the Research

Perceived Value of the Research for the Respondent's Business					
Original Table	Frequency	Valid Percent	Cumulative Percent		
1 Extremely valuable	19	3.6	3.6	Mean	3.20
2 Very valuable	108	20.4	24.0	Median	3.00
3 Moderately valuable	214	40.0	64.3	Mode	3
4 Slightly valuable	126	23.8	88.1	St. Deviation	1.011
5 Not valuable at all	63	11.9	100.0	Minimun	1
Missing Values	0	.0		Maximum	5
Total	530	100.0	100.0		

Frequency of Response — Perceived Value of Research (N=530)

Mean = 3.2
Std. Dev. = 1.011
N = 530

5-Point Likert Scale

These results indicated that the topic was of *practical relevance* even for some of these participants who currently did not perceive any value. Moreover, the outcome suggested that the survey length did *not* pose an obstacle to commit to similar projects in future.

Likewise, the *practical relevance* was demonstrated by the fact that in the course of the survey a few business contacts from larger international corporations expressed interest in future collaboration or offered to extend job opportunities. Some of these contacts were intriguing as they were authentic and had supported the research by spreading the anonymous research link as multiplicators within their companies, social networks or completing the survey themselves.

On the downside, there were *free riders* who requested detailed research information upfront pretending that they had participated in the survey. Unexpectedly, the review of the Qualtrics submission schedule and email addresses showed that these contacts had neither submitted or completed a survey nor even clicked on the survey link itself though they were eager to obtain the analysis data and questionnaire.

Consequently, the outcome of Questions 6a, 6b, and 6c aimed at identifying the underlying motivation of the participants: were they intrinsically interested in the research topic (signing up for the executive summary) and/or committed to future similar projects?

Was it the extrinsic gratification (raffle), or did all of these reasons drive their commitment to complete the survey as evidenced in Appendices N1–N6?

The *Research Value Barometer* depicted below summarises the background of the participants whereby the variables with (*no*) statistically significant outcomes are colour-coded in (*grey*) blue.

Figure 6.12 Research Value Barometer

	REG DACH / NA (1.)	EMP Vendor / Buyer (2.)	EDU Normal / Higher	PRIZE Chance / Winner (3.)	STMU SocMed / TradMed	SIZE Small / Enterprise	RAR Team / Leadership	GEN GenY / GenX	
High	30% / 20%	24% / 15%	31% / 23%	30% / 24%	15% / 13%	13% / 11%	19% / 10%	14% / 11%	No Value
Medium	41% / 39%	41% / 37%	51% / 38%	52% / 45%	24% / 22%	26% / 24%	24% / 15%	25% / 23%	Low Value
Low	24% / 20%	33% / 20%	26% / 13%	24% / 20%	51% / 34%	40% / 39%	43% / 42%	41% / 40%	Medium Value
No	15% / 11%	15% / 15%	13% / 5%	5% / 0%	29% / 12%	26% / 21%	24% / 23%	25% / 21%	High Value

Statistical Significance p ≤ .05   No Statistical Significance p > .05

Example 1. 30% of respondents of the DACH region perceived the research as highly valuable versus 20% of the NA region. Example 2. 24% of Vendors perceived the research as highly valuable compared to 15% of Buyers etc. Example 3. 30% of the respondents who entered the prize raffle perceived the research of 'high value', 45% of 'medium value', 20% of 'low value', while 5% saw 'no value'. The difference to the actual winners of 21 prizes in 2017 was found to be statistically significant. The ratios are evidenced in Appendix N1.

The results in Appendices N1–N4 provided evidence about how participants perceived the value of this research for their particular business and industry setting beside the underlying reason for the research outcome.

A chi-square test for independence indicated a significant association χ^2 (1, *n* = 530) = 46.34, *p* = .00, *phi* = .03. Of the minority (11.9%) which pretended to perceive *no* value of the research still, 28.6% requested the executive summary.

Additional findings supported the assumption that the difference between those who valued the research at least to some extent, committed to future projects and requested the executive summary was significant from those who were reluctant to commit to future projects, yet requested the executive summary (Appendices N5–N6).

However, whether the request of the executive summary was motivated by a *sense of entitlement*, *gratification*, or a *genuine interest to forward the information* potentially to colleagues in charge of Social Media remains open to question.

6.11 Discussion

The findings facilitated *strategic recommendation and managerial guidelines* with the purpose to *raise awareness* of engaging specific platforms within the individual process phases. This renders the process phases, and the entire Business Development cycle more *agile* and *effective*.

The **S**ocial **B**usiness **R**elevance **I**ndex (SBRI) supports in assessing various platforms and their suitability within the process. This index enables practitioners to identify and select suitable platforms with the objective of optimising the media mix. Furthermore, identifying the ratio of the decision-making process underlying layers offers the possibility to coordinate and align the *Social Media content quality* to engage critical contacts in the various regions.

Therefore, in line with Fatemeh et al. (2015); Agnihotri et al. (2016) the author suggests developing a *social media strategy* which matches the platform preferences and digital content of transaction relevant B2B-vendor and buyer decision-makers. Furthermore, this strategy is accompanied by *implementation guidelines* to help practitioners grasp the potential of Social Media (Swani and Brown, 2011).

The actual and potential benefits practitioners perceived from Social Media usage created not only the increased *awareness* of the potential impact of Social Media Business Usage on the current business process phases but also helped to develop indices which made this impact *measurable* and *optimisable*. Thereby, the indices-based ROI_{BD} approach acknowledging the importance of Social Capital provides clarification on the often unclear ROI definitions.

Consequently, the actual usage and motivation to engage in Social Media technology opened up further options to reassess the *current hiring criteria*, *trainings measures* and *performance evaluations* of Business Development professionals.

Conceivable *performance evaluations* in the future might incorporate the comparison of individual benchmarks (e.g. *number of developed target contacts*, *quality of generated leads and opportunities*) according to the *identified types* of Business Development Executives.

Likewise, the contribution of utilised Social Media Platforms to render the individual process phases and the overall cycle more *agile* and *efficient* could be *incentivised* for individuals and/or teams by introducing a Social Media technology-oriented bonus structure and Social Networking Sites (SNS) profile reimbursement policy.

Finally, the Social Business Relevance Index allows tracing back the individual or functional impact specific Social Media platforms have to accelerate the B2B-Business Development process cycle based on the **S**ocial **B**usiness **M**otivation **I**ndex (SBMI) to ensure a positive culture of the involved professionals based on attitudes and behaviours. This might not only help to encourage or discourage the use of certain platforms during the process but also optimises the mix of existing and future media platforms in B2B-Business Development.

7 Conclusions

Finally, there were several indicators that this project would make not only a valuable theoretical contribution but also awaken and benefit the interest of practitioners.

7.1 Appraisal of the Outcome

Considering the outcome of the pilot study as a *vantage point* and the survey as a *reality check*, it can be upheld that at this time Social Media in B2B evolves mostly around the Social Networking Sites (SNS) since the ability to build networks in quality and size is perceived as a warrant for successful relationship building resulting in business opportunities.

The survey design and response rate allowed a relatively unproblematic data analysis phase which led to statistically significant results in most of the cases. The research questions could be answered for the most part, though statistical significance was sometimes narrowly missed or not reached. Likewise, the majority of the hypotheses of the conceptual model were confirmed. Moreover, some peripheral practitioner questions were touched on since they provided specific guidelines for best practices besides the primary results of the core research. These additional concepts were discussed on the surface leaving in-depth analyses for similar future projects. The suggestions of pre-test participants to drastically condense the survey range led to the decision to deal with concepts like 'Online Inhibition' or 'Theory of Weak Ties' just superficially as part of the statements of the B2B-Business Development Process. In contrast, some of the voiced practitioner's topics relating to the research model in the broader sense seemed justified by the evidence and relevance to current business requirements. This practitioner orientation generated several ideas for further research. Despite the fact that some of the practical implications were predictable, several suggestions bore some unexpected results.

7.2 Contributions of the Research

This research tackled the project of rendering B2B-Business Development processes more *efficiently* and *effectively* with Social Media in accordance with Agnihotri et al. (2016); Brink (2017) by contributing in various ways. It is among the first empirical studies focusing on Social Media technologies in the B2B-Business Development environment while enhancing transparency to the vague ROI concepts.

Academic/Theoretical Contributions

This research undoubtedly led to a deeper understanding of how to define the B2B-Business Development process within a global software environment and anticipated several research suggestions of Rodriguez et al. (2016) to examine the impact of Social Media on Performance through other business processes than just sales processes while identifying where in the process Social Media might generate the best outcome. Findings provided a justification for Social Media tools making a pioneering contribution to the B2B-literature.

The previously blurry concept of B2B-Business Development in the existing literature (Kind and Knyphausen-Aufseß, 2007) could be sharpened by illuminating and defining the core phases of the B2B-Business Development process cycle in the software context.

The conceptual framework details the core activities through which B2B-Business Developers might use Social Media technologies to enhance performance. The incorporation of Social Media Business Technologies in the B2B-Business Development process bridged a gap between two research areas which were previously studied disjointly from each other.

However, at the centrepiece of the research was the comprehensive theoretical model (Figure 5.4,169) which was for the most part statistically supported by the *Final* Version of the Structural Equation Model in Figure 7.1 (Demonstrated here using the example of the first antecedent dimension: *Inclination towards Social Media Usage*).

Figure 7.1 *Final* Model Version; *High*-Social-Media-Users –*Low*-Traditional-Media-Users

The grey coloured ellipses represent the model variables. The dark blue coloured arrows show the direct effects. The purple coloured arrows represent the indirect effects via the assumed moderator Social Capital. The plum coloured arrows reflect the incorporated relationships based on the M.I. analysis. The dotted lines represent non-significant path values (*p* > .05).The structural paths of the model contain the standardised regression coefficients or *ß* values. High-Social-Media-User–Low-Traditional Media-User (HSMLTM).

Originally, *Usage Criteria* and *Social Capital* were assumed in the *Comprehensive Theoretical* Model to act as moderator variables in the relationship between B2B-Business Development and Business Performance. The parsimonious, simplified *Final* Model version, however, revealed that both, *Usage Criteria* and *Social Capital* were *not* acting as moderators and that only *Social Capital* had a differentiated mediating effect.

The following amendments can be seen as additions without compromising extant theory.

- The Business Development process phases were *rearranged* by moving the original *BD process phase IV* to the beginning while maintaining the sequence of the other three B2B-Business Development process phases I – III in their original order.

- The two items of the original *BD process phase I* identified by the CFA as additional process phase, i.e. *SocMedEng*, were eliminated from the BD process (Independent Variable) and reassigned to and integrated into the Antecedent *Inclination New*.

- The Antecedent *Social Media Business Usage* was addressed from two perspectives, *Inclination* and *Hesitation* representing a *novelty.*

- The *Outcome Variable* Business Performance was differentiated into a *deterministic* or *perceived*, i.e. PERF and a *probabilistic* or *expected*, i.e. SMJU dimension. Thereby, the main focus was on the *deterministic*, i.e. *perceived* dimension or *Business Performance in the narrow sense*.

Table 7.1 demonstrates that most of the hypotheses originating from the *Comprehensive Theoretical* Research Model were also supported in the *Final* Structural Equation Model. Moreover, the *Final* Model version considered the *interactions* or *interrelationships* between the various Business Development process phases which at the same time represented a *partial contribution to theory.* For example, similar research by Rodriguez et al. (2012) in B2B considered subsequent relationships in related sales process phases but neglected possible interrelationships between the various process phases.

Table 7.1 Standardised Path Estimates for the *Final* Structural Equation Model

H	+ Path				ß	p	H Supported?	
H_CM4	Inclination New	+	→	BD Phase IV	.22	***	Yes	
H_CM1	Inclination New	+	→	BD Phase I	.32	***	Yes	
H_CM2	Inclination New	+	→	BD Phase II	.27	***	Yes	
H_CM3	Inclination New	+	→	BD Phase III	.22	***	Yes	
H_CM5d	BD Phase IV	+	→	TSCAP	.22	**	Yes	
H_CM5a	BD Phase I	+	→	TSCAP	.28	***	Yes	
H_CM5b	BD Phase II	+	→	TSCAP	.08	ns	No	
H_CM5c	BD Phase III	+	→	TSCAP	.18	**	Yes	Comprehensive Theoretical Model
H_CM10	BD Phase IV	+	→	TPERF	.34	***	Yes	
H_CM7	BD Phase I	+	→	TPERF	.13	**	Yes	
H_CM8	BD Phase II	+	→	TPERF	.09	ns	No	
H_CM9	BD Phase III	+	→	TPERF	.15	**	Yes	
H_CM5	TSCAP	+	→	TPERF	.25	***	Yes	
H_FM4	BD Phase IV	+	→	BD Phase I	.21	**	Yes	
H_FM1	BD Phase I	+	→	BD Phase II	.21	**	Yes	Contribution
H_FM2a	BD Phase II	+	→	BD Phase IV	.15	**	Yes	
H_FM3a	BD Phase III	+	→	BD Phase IV	.48	***	Yes	Interactions
H_FM3b	BD Phase III	+	→	BD Phase I	.27	***	Yes	
H_FM2b	BD Phase II	+	→	BD Phase III	.43	***	Yes	

(Right bracket for all rows: Final Model)

Dark blue: Strongest relationship for the Independent Variable BD Process Phase.
Medium blue: Strongest relationship for the Antecedent dimension *Inclination*.
Purple: Strongest relationship for Mediator Social Capital; Grey: Strongest
Interrelationship between BD Process Phases; Light blue: *No* relationship.
***$p \leq .001$; ** $p \leq .05$; ns = non-significant; ß = Standardised Regression Coefficient.
H_CM = Hypothesis of Conceptual Model; H_FM = Additional Hypothesis of Final Model.

The following table highlights the *academic contributions* of which a few will be discussed hereinafter in greater detail.

Table 7.2 Academic Contributions at a Glance (Extract)

Research Questions (Chapter 1.3,5) • Research Task	Reference *(Extract)*	Academical Contribution (Chapter 1.7.2,14–15) *(Extract)*

How does Social Media Usage impact the B2B-Business Development Process and ultimately Performance?
• Developed conceptual model resulting in the *comprehensive theoretical* model (after CFA).
• Defined two dimensions of Business Performance
  • Deterministic (PERF) 'Perceived' *Business Performance*
  • Probabilistic (SMJU) 'Expected' *Social Media Justification*
	• Chapter 5.5;
	Figure 5.4,169.
	• Chapter 5.5;
	Figure 5.11,181;
	Table 5.33,182.
		New Conceptual Definition of the BD Process cycle by substantial confirmation of the comprehensive theoretical model proposing certain modifications:
		• Re-arrangement of the BD phases
		• Eliminating of Usage Criteria
		• Social Capital as Mediator.
		Impact on *individual* (ß of individual process phases) and *overall* Performance ($\sum$ ß of entire process cycle). More than 80% of Vendors perceived/expected >10% more impact on performance by Social Media Business Usage. More than 80% of Third Party; 60% of Buyers perceived/expected > 5% ≤ 10%.

What are the various phases of the B2B-Business Development Process? (B2B-Software Environment) • Designed + refined measurements.	• Chapter 5.5; Figure 5.4,169; • Chapter 5.5; Figure 5.6,172.	Combined, adjusted and transformed existing Measurements based on an interdisciplinary literature review. Example: *Business Performance; Inclination New*

What particular type of Social Media resonates with the individual process phases (and the entire cycle)?
• Determine preferred Media Mix in the B2B software environment.
• Developed two Indices
  • Social Business Relevance Index
  • Social Business Motivation Index to derive a *relevant set*.
	• Chapter 6.1,191–195;
	Figures 6.1–6.4,
	191–196;
	Table 6.1,194.
		The *unique selection* of Social Media Platforms in the decision-making provided insight on tailoring the content design to specific layers of decision-making.

	• Chapter 6.6,202–205; Tables 6.3–6.5, 202–205.	The *Social Business Relevance Index* identifies the *particular combination* of professional Social Media Channels within a *particular phase* or *across all phases* of the Business Development Process cycle.
	• Chapter 6.7,206–207; Table 6.6,206.	The *Social Business Motivation Index* determines the *main drivers* of Social Media *Usage frequency*.
How does Social Media Usage impact the B2B-Business Development Process? • Identifying and defining of *two dimensions* of the Antecedent of Social Media Business Usage.	• Chapter 5.4,158; Tables 5.22–5.23,163. • Chapter 5.5; Figure 5.4,169; Figure 5.7,173; Figure 5.8,174.	*Two dimensions* of the Antecedent: 1. *Inclination* and 2. *Hesitation towards Social Media Business Usage* which influence positively (adversely) the duration of the individual Business Development process phases and/or the entire B2B-Business Development process cycle.

Empirical evidence was provided on how Social Media can *expedite* the underlying process phases (Andzulis et al., 2012) by developing a *comprehensive theoretical* model which was largely confirmed by the *final* structural equation model as shown before.

Also, by choosing an *international* research context with *three dominating* regions, by including *third-party* and *buyer* respondents in a simultaneous study, the issues of the isolated local/national view, as well as a one-sided, biased focus, e.g. on *vendors*, were addressed which added substantially to the meaningfulness of the outcome.

Likewise, the unique *liaison role* of B2B-Business Development between Marketing and Sales this study extended the scope of previous studies, e.g. Rodriguez et al. (2012); Agnihotri et al. (2016). Additionally, a deeper understanding was achieved by the efficient business usage of specific Social Media platforms in B2B-Business Development.

Finally, this research developed *various indices* (Social Business Relevance Index, Social Motivation Index), a *deterministic* and *probabilistic* performance dimension which provided quantifiable ROI measures in addition to the current quality objectives on a more granular/operational level (Hoffman and Fodor, 2010; Hoffman and Novak, 2012) and will be discussed in greater detail in the managerial contribution section.

Methodological Contribution vs. Creative Approach

This research attempted to follow the call for *methodological pluralism* in B2B-Marketing research by studying the theoretical (Chapter 2), methodological (Chapter 4) and methodical (Chapter 5) dimensions identified by Nicholson et al. (2014); Midgley et al. (2017).

The application of *mixed methods* rather than pursuing an isolated qualitative or quantitative approach represents a methodological contribution. This approach is justifiable since the two areas of Social Media and Business Development were initially disjointly researched with empirical or exploratory methods. The combination of both areas suggests mixed methods allowing for generalisation of the findings to a large extent (Agnihotri et al., 2016).

Though the creative approach of data gathering is worth mentioning here, it does <u>not</u> constitute a methodological contribution by itself. Ensuring the gathering of relevant data in a foreseeable period regularly poses a major challenge in research projects. Enhancing and accelerating the data collection process by defining and pursuing an unusual *continuous engagement process* during and after the data-gathering phase mastered the challenge to obtain a unique dataset of 543 respondents within approximately six weeks (Appendix F4). By continuously <u>engaging</u> the participants (informing, involving and thanking them during this process) it was possible in times of survey fatigue to secure their permanent commitment by establishing rapport, credibility and trust. Mostly, respondents invested between 20 to 40 minutes of their time to complete the survey and eight of nine (88.1%) realised that this project was of particular value for their organisation. Also, multiplicators, sometimes even strangers, shared the survey link within their networks.

Moreover, the commitment could be secured for future research projects. A clear majority of all respondents (53.8%) *expressed their interest* in participating in upcoming research projects versus 33.4% *indifferent* and 12.9% *unwilling*. While the third-party respondents were even more euphoric (56.2%) than the vendor ones (53.2%), respondents among the buyer group were the least in favour (49.5). Consequently, this approach might be replicable in terms of ensuring data for longitudinal research projects.

In addition, some of the partially new measurement scales for the B2B-Business Development process cycle supported in determining via Social Capital the degree to which Business Performance could be impacted (Van Deth, 2003; Trainor, 2012).

Finally, the pulse check of the value of this research (Chapter 6.10) allowed to assess the current research and simultaneously the commitment for similar future studies which represents a novelty.

Managerial Contribution, Implication and Evaluation

Marshall et al. (2012); Moncrief (2017) acknowledged a *critical gap* caused by the advent of Social Media for B2B-research and -practice. Moreover, Brennan et al. (2014) addressed the importance to *bridge* this academic/practitioner *gap* to improve the relevance of B2B-research for practitioners. Consequently, this research is aimed at closing this gap by providing benefits for both, the academic and practitioner communities.

The importance practitioners attached to this research tackled some of their every day, and strategical challenges are highlighted in Table 7.3 and discussed further below.

Table 7.3 Managerial Contributions at a Glance (Extract)

Research Questions (Chapter 1.3,5) • Research Task	Reference (*Extract*)	Practical Contribution (Chapter 1.7.3,15–16) (*Extract*)
How does Social Media Usage impact the B2B-Business Development process? • Estimated Process Cycle Times	• Chapter 6.3,198; • Chapter 6.5,201; Figure 6.8,202.	Social Media Usage might *reduce* the average cycle times to different degrees: vendor 0.5; third party 3.0 and buyer 4.9 (average *time gain* in months). This leads to accelerated individual phases or the entire process cycle.
What are the various phases of the B2B-Business Development process? (Software Environment) • Defined four process phases • *Rearranged* phases resulting from the CFA.	• Chapter 5.5; Figure 5.4,169. • Chapter 5.5; Figure 5.11,181; Table 5.33,182.	BD IV: Increase the number of leads and generate opportunities. BD I: Identify and prospect potential buyers. BD II: Share information and maintain knowledge. BD III: Build social networks and manage existing relations.
What particular type of Social Media resonates with the individual process phases? • Created two Indices.	• Chapter 6.6,202–205; Tables 6.3–6.5, 203–205; • Chapter 6.7,206–207; Table 6.6,206.	The *Social Business Relevance Index (SBRI)* identifies a unique platform mix for a particular phase or across all phases of the Business Development process cycle. The *Social Business Motivation Index (SBMI)* determines the driving forces of Social Media usage frequency.
What are the characteristics that moderate or mediate the relationship between Business Development and its outcome? • Earmarked two variables.	• Chapter 5.4,157; Table 5.18,159; • Chapter 5.5,168; Figure 5.4,169; • Chapter 5.5,183.	Findings of RA and SEM suggested that both variables did *not* act as moderator variables. Usage Criteria was statistically *not* significant and was therefore neglected. *Social Capital* was statistically *significant* and acted as a *mediator*.
What are the particular types of Business Developers in Social/ Traditional Media Usage? • Determined BD typology based on a *changeable* list of nine criteria.	• Chapter 6.9,208–211; Figures 6.10–6.11, 209–211; Table 6.7,210.	For the function, B2B-Business Development, there were two extreme type of Business Developers identified: *Old-School Sceptics* mostly rely on Traditional Media. *Cutting-Edge Advocates* primarily consider Social Media. The *mixed type* included BDs who used both media.
How can Social Media potentially tackle specific issues within the organisation, e.g. decision-making, process enhancement, and performance metrics? • Raised awareness. • Suggested guidelines.	• Chapter 6.2,196–198; Table 6.2,198; • Chapter 6.3,198–199; Figure 6.6,199; • Chapter 6.8,207–208; Figure 6.9,207.	Social Media Efforts can be coordinated cross-functionally (BD-Liaison), uncoordinated in silos, or are up to the individual executive dependent on the company size. To optimise the Social Media Usage, it was suggested to raise awareness on how to accelerate BD process phases and provide practical guidelines and strategic recommendations on which platforms to use.

The clarification of the Social Media Business Usage concept by differentiating between the two dimensions *Inclination* and *Hesitation* can be viewed as a further development of the existing concept since it reveals the underlying motifs to frequently use or rarely engage in this media. This measure is new and showed mostly to be valid and reliable in predicting the B2B-Business Development process and Business Performance.

The definitions of Business Performance in the *narrow* (TPERF) (*deterministic*) and *broader* (*probabilistic*) (TRSMJU) sense represented further options to support the efforts in creating a more specific and original measurement besides the creation of the **S**ocial **B**usiness **R**elevance **I**ndex (SBRI) and **S**ocial **B**usiness **M**otivation **I**ndex (SBMI).

These metrics are instrumental in moving from the "extensive practitioner interest in the use of social media" (Brennan and Croft, 2012,113) to the *actual* usage or at least narrowing "the gap between the perceived social media potential and actual use in B2B" (Jussila et al., 2014,612). Moreover, they provide further, innovative options towards a more comprehensive and dynamic social media inclusive ROI approach (Hoffman and Fodor, 2010; Geho and Dangelo, 2012; Peters et al., 2013).

Viewing *business performance* from several angles such as *efficiency* and *effectiveness* on one side, *expectation/justification* of Social Media on the other side and developing indices to increase the transparency of suitable platforms within the process helped to demonstrate the ultimate perceived benefit of Social Media Business Usage on B2B-Business Development. Similarly, with Agnihotri et al. (2016) seeking to optimise Social Media Usage, the **S**ocial **B**usiness **R**elevance **I**ndex (SBRI) provides practitioners with a useful tool to *assign* and *combine* suitable Social Media platforms within the various process phases and within the entire B2B-Business Development process cycle with the objective to render these processes more agile and shorter to secure new business ahead of major competitors.

The consideration of the executive's view was critical in determining another index which ultimately ensured the *motivation* of executives to apply these identified platforms. This index also suggested the potential to increase/decrease the usage of specific platforms within the various phases and allowed identifying the optimal platform/platform mix to impact efficiency and effectiveness. Additionally, the SBRI and SBMI represent a quantifiable approach to track a more accurate impact of Social Media within the B2B-Business Development process.

The **S**ocial **B**usiness **M**otivation **I**ndex (SBMI) served as a *pulse check* what motivated executives to utilise Social Media. Besides understanding the underlying attitudes and behaviours, this index might help to track the drivers of Social Media Business Usage across business functions or units which supports in aligning usage strategies. Mainly, the outcome of the analyses for the *Cutting-Edge Advocate*, i.e. technically savvy Business Developers can derive managerial guidelines to demonstrate the positive benefits of Social Media Business Usage like enriching the laborious activities in the initial phase, preparing business

relationships for future transactions and abbreviating the length of the complex business process cycle (Chiu et al., 2006; Mesch, 2012).

Furthermore, this approach is transferable to the related liaison functions, Marketing and Sales and functions on the buyer side, like Procurement and Purchasing. By shifting the focus on the perspectives of three subsamples (vendor, third-party and buyer), the importance of the various process phases has been analysed simultaneously from several different angles and provided some insights for Managers to align their Social Media efforts cross-functionally to enhance the overall performance.

Finally, the **S**ocial **B**usiness **R**elevance **I**ndex (SBRI) might serve as a benchmark for the individual B2B-Business Development executive to rethink whether their Social Media usage intensity is within the recommended range or encourage the more traditional executive to deal with Social Media. This index might impact the individual attitude, behaviour and performance criteria of Business Development executives by adding a technology usage component in their performance metrics since it enables changes of the process phases towards agility resulting in faster lead and opportunity generation. Thereby, Social Media Business Usage intensity acted as one of several feasible indicators (Aichner and Jacob, 2015).

Likewise, the distinction in *two major types* of B2B-Business Development Executives supplemented by a *mixed* type helped to formulate and streamline B2B-Business Development job and performance requirements and define new activities to render processes more agile and speedily while maintaining traditional activities is crucial in the earlier or later stages.

This research answered the practitioner-relevant research section the way that it laid a broad foundation for strategic recommendations or implementation of guidelines (Moretti and Tuan, 2014; Fatemeh et al., 2015; Bernard, 2016).

Another potential managerial contribution consisted in the analysis of the three components underpinning business decisions relating to the purchasing of B2B-software solution and services. By rendering the proportions between the decision-making layers more transparent and by uncovering differences between vendor, third-party and buyer respondents, insight was gained on how practitioners might adjust their Social Media Content Strategy more precisely in line with these layers. This partial contribution is especially relevant in the context of *Social Media Engagement* having become one of the leading organisational digital priorities (Syrdal and Briggs, 2018).

Surprisingly, the *emotional* proportion in the decision-making reached mostly only 20% to 30%, and cross-regional differences were observable. While the mean values of the *rational* component tended to be substantially higher pointing towards in the DACH (44.4%) and Western European (44.7%) versus the NA (40.0%) region, the *intuitive* component was apparently more important in the NA region than the other regions (Table 6.2,197). Taking

these findings into account B2B-Business Development/Marketing practitioners might enhance their Social Media content (e.g. profile, personal or corporate branding, solutions) based on the layer estimates. Thereby, it is critical to observe the fine line between *proactive* and *reactive* content (Fatemeh et al., 2015). This means to orient and to implement their approach stronger in alignment with the components of B2B-decision-making which prevail in the various regions. It was also shown that at this period *networking* and *branding* were the critical *motivational driving forces* for Social Business Usage which is in line with customer brand *engagement* in B2B-brand/virtual communities (López and Sicilia, 2017; Carvalho and Fernandes, 2018).

In particular, *Engagement* is expressed in the *followers*, *likes*, *comments* and *share behaviours* (Syrdal and Briggs, 2018). In contrast, the motivation to utilise Social Media to render business processes *more agile* was slightly less pronounced.

In addition, the following pieces of evidence indicated that this research was perceived as practically relevant. Firstly, some pre-test participants' comments and their support to distribute the survey as multiplicators within their corporations e.g. Microsoft, SAP and JBT Aerotech (see Appendix B), secondly, the reference letter from the previous employer Apriso, e.g. highlighting the acceleration of the lead generation time through Social Media (Appendix O1), and finally, the research value assessment and future commitment Q6a/Q6b.

Moreover, being nominated and awarded to win the LinkedIn Award #1 in February 2017 as evidenced in Appendix O2 might be viewed as another partial practical contribution in a broader sense since it demonstrated that the research was in line with recent developments and gained the interest of practitioners.

Equally, the invitation to the educational cookery show as a featured guest in February 2018 of 'Wissen schmeckt' (Tasty Science) to present the research project and a related article which was earmarked to be included in the publication 'Das Wissen schmeckt Buch', by Springerverlag might be perceived similarly (Appendix O3).

Personal and Career Development

It took several months from incubating the original idea to embed Social Media into B2B-Business Development and getting the particular attention of senior management. The convincing results, i.e. number and quality of generated B2B-opportunities at MarketOne International, a Boston-based, third-party firm, led to an overseas career opportunity from one of their primary B2B-software clients, Apriso/Dassault Systems in 2011. Likewise, the author continued to achieve noteworthy results from 2012 to 2014 by identifying, targeting and generating leads and opportunities leveraging Social Media. The redesign of B2B-Business Development activities to be more agile and adaptive resulted in a considerable improvement of the lead and opportunity generation process for software solutions and services (Pöyry et al., 2017).

Currently, the author is involved in a start-up which reassesses existing Social Networking Sites by adding disruptive, innovative features to virtually identify and connect the most suitable business contacts within seconds by utilising digital app technology (see Chapter 6.1). In light of Web 3.0, the author suggests that Social Networking Sites will include more virtual elements (e.g. testimonial videos, elevator speeches) to build the bridge to reality. In line with Tuarob and Tucker (2015); Schrock et al. (2018) data mining and social network analysis from various social media profiles support in retrieving and distilling the most relevant data for B2B-executives.

Moreover, by leveraging technologies such as *biometric facial recognition systems*, it is expected to accelerate and optimise the processes like bringing the right contacts together, establishing a rapport based on solidified information and matching the business partners that fit perfectly together for particular business transactions based on personal preferences, professional background and value system. Instead of just providing access to a universe of potential contact information this platform will provide the technology to retrieving, tracking and converting the relevant contact information with just a few mouse clicks to swiftly generate new business opportunities.

7.3 Limitations of the Research

Though the reported findings are mostly valid, there are several limitations to the research project that may affect the reliability of the outcome.

Firstly, though the measure of Social Media Business Usage Inclination/Hesitation is still relatively novel and shown to be valid and reliable in impacting the various phases of the B2B-Business Development process, additional scrutiny is recommended to improve the robustness of these measurements. Focusing on the B2B-Business Development in the software industry might limit its potential generalisability.

Secondly, there were several limitations with regards to the Social Capital (SCAP) construct. Some items related to the *importance* of the SCAP construct, while others referred to rating its *level* (Appendix D8). To justify the mix of the items relating to the individual vs. the organisational assessment from the statement by Peters et al. (2013,282) that "social networks are social structures made up of a set of social actors (i.e., individuals, groups or organisations)" was debatable and posited a potential limitation. As less than three items were used concerning the dimensions of the SCAP construct this may have led to the construct being underidentified (Hair Jr et al. 2009).

Thirdly, though this research considered the perspectives of vendors, third-party, and buyers suggested by Agnihotri et al. (2016), it focused primarily on their perspectives regarding the B2B-Business Development process phases rather than to drill down into the various dimensions of Business Performance. Future studies should consider additional Business Performance metrics on a more granular level to provide further validity (Hoffman and Fodor, 2010; Geho and Dangelo, 2012).

Fourthly, this study captured just a snapshot of a given point in time on Social Media Business usage in B2B-Business Development as an evolving phenomenon across various industries while it did not cover developments over a more extended period. For example, the activities and usage intensity concerning the selection of a limited, relevant set of social media from the currently available platforms, the participation in online forums, and the increase of social networks per se are fluid which means that they are subject to ongoing change.

Fifthly, though prospective participants in all regions were targeted through Social Networking Sites, the majority of completed survey responses originated from three regions which were clearly overrepresented compared to the remaining five regions which were combined to the category 'others' with less meaning and were therefore negligible. Thus, the generalisation of this research has to be sensibly interpreted in light of regions with culture-specific particularities like Asia-Pacific, Middle East/Africa and Latin America. Consequently, emerging regions like the Middle East/Africa or the BRIC nations suggest further research.

Sixthly, Social Media was considered mostly from a slightly optimistic perspective whereby the focus was on possibilities that it offered to the B2B-Business Development process rather than on potential issues, like the unrealistic expectations it may raise. Although this research has demonstrated that Social Media is suitable in certain phases of the B2B-Business Development process cycle, it may not be overlooked that Social Media technology just serves as 'a springboard' to get relationships jump-started and obtain foundational information but that it requires continuous engagement to develop sustainable relationships. Likewise, its business usage should not be overrated because the traditional 'Face-to-Face' approach is far from becoming obsolete and will remain critical as an information source for the decision-making and ultimately successfully finalisation of B2B-business deals in the near future. Efficient B2B-Business Development executives are prone to skillfully apply suitable technologies (Barrett, 2017; Bossons et al., 2012). Thus, this research focused on a relatively small number of established Social Media being conscious of the myriad of emerging available choices (Bernard, 2016). Of course, due to the continuous changes with the generational shift, this media set represents only a choice at a given period and might change any moment.

Seventhly, the choice of a convenience sample suggests that though the findings are only generalisable to a limited extent, they convey a reasonably, realistic picture. Likewise, a few of the statistical results, e.g. of the Factor Analyses and Regression Analyses were either at the frontier of the suggested rules of thumb or just fell short of these thresholds. Likewise, one of the assumed moderator variables *Usage Criteria* did not demonstrate any statistical significance. Thus, some of the practical conclusions should be treated with care.

Lastly, though the proposed model was generally supported, the sampling is worth to be mentioned since it provides other research opportunities. This study comprised B2B-Business Development executives of different generations with diverse careers including experiences in marketing and sales in various corporate settings. This implies considerable *experienced-based biases*. Though the generalisability of the results was improved, it might at the same time lead to responses different from more those executives who are exclusively responsible for new B2B-business development. Hence, future studies might focus on digital native executives with little previous experience or at a more junior level in their Business Development career in charge of new B2B-business development only.

7.4 Guidelines for Future Research

By tackling various practitioner issues (Chapter 6), this research opened up further academic research possibilities, for example, how the engagement of a specific set of social media is perceived on the buyer side to optimise Social Media efforts.

The findings show numerous research directions. Since the relevant set of Social Media is subject to continuous change, future research might examine preferences for specific Social Media by various generations and include platforms like Viadeo for specific regions (French language and culture region) or mobile app technologies like BumbleBIZZ, Networkr or Shapr, the 'Tinder of professional networking'.

Scholars may consider additional moderating effects such as 'disruptive, innovative' Social Media platforms which are yet to be developed.

Other research areas would involve studying the impact of Social Media in B2B within emerging regions like Asia-Pacific, Middle East or BRIC particularly with regard to China the largest Social Media Market worldwide (Lacka and Chong, 2016). It would also be conceivable to examine the level of Social Media proficiency in certain contexts like innovative start-ups compared to established corporations.

Definitely, longitudinal studies could be of interest in terms of examining the ultimate impact of Social Media Usage on Business Performance in a broader sense.

To further leverage the potential of Social Media to the benefit of B2B-Business Development and its related functions requires research efforts to be made by academics *and* practitioners. The integration of Social Media technology in the strategies of B2B-Business Development and its related functions Marketing and Sales, as well as Procurement, might help to accelerate and ameliorate the relationship building process, optimise the requests for proposal efforts via relevant mutual communication resulting in being shortlisted and generating new profitable business with recurring income ahead of competitors. Another future research area worthy of mentioning is how Social Capital might be more efficiently accumulated by *leveraging weak-ties* and *storytelling* which support creating a LinkedIn/XING contact base within a short time. Finally, innovative compensation

and motivation models might incentivise and promote the Social Media business usage by enhancing the tracking mechanism to trace back business performance to specific social media platforms and rewarding individual and team usage efforts.

7.5 Outlook

The study shows that the business usage of Social Media has indeed been of noteworthy value for B2B-Business Development executives since it makes a vital contribution to identify and optimise the underlying process phases which enhance the actual and perceived business performance. Social Media Business Usage will increasingly replace traditional media (cold calling, etc.) in B2B-Business Development. However, the extent and role of Social Media business usage might vary with the industry, organisation or corporate size (Rodriguez et al., 2016). Likewise, it depends on the particular type of executives and has to be seen as a tool rather than a panacea in the Business Development process. This means that the traditional approach remains indispensable especially in the later B2B-Business Development phases, even when its format might be challenged by Social Media innnovations. Though currently, physical meetings are increasingly conducted virtually via Skype, more digitalised versions are thinkable supported by intelligent personal assistants, e.g. Siri developed by Apple.

Digitalisation is becoming apparent in the DACH region seeking ways to simulate some of the features of the Face-to-Face approach, mainly as an information source to support decision-makers. Likewise, Social Media is continuously reinvented by embedding more agile, dynamic components, primarily targeting the digital natives.

Though Social Media usage is vital to enhance or retain the competitive position in globalised markets through developing high-quality B2B-relationships (Levin et al., 2012) and the impact of Social Media technologies in B2B-Business Development is considerable, B2B-vendors, third-parties and buyers still have *different perceptions* about how to leverage Social Media and often *underestimate* its power. Possible reasons might be that practitioners have not yet recognised and embraced the true value of concepts like *Social Capital* to anticipate and build up future business relations by obtaining access to a broad range of relevant contacts.

This suggests *building awareness* and *providing guidelines for practitioners* to benefit from Social Media which improves the daily activities and the overall processes sustained by Moncrief (2017). This research aimed to call for and clarify the usage of Social Media during the B2B-Business Development process to accelerate the various phases with the ultimate objective of improved Business Performance metrics. In conclusion, the explanatory power of this research underscores the importance for B2B-companies to increasingly utilise the possibilities of Social Media Business Usage and Social Capital for their B2B-Business Development, although the implementation is still in its early adoption or development stage with ambiguous performance expectations.

Acknowledging the increasing convergence of traditional Face-to-Face and Social Media technology invites to develop more agile and dynamised platforms to fill the still existing gap mentioned in Chapter 6.1,191 et seq.

Appendix

For reasons of reader convenience and simplicity, the appendix was reported in a separate document/file. The literature contained in the appendix was included in the references section below.

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