

Advising under constraint: how think tank autonomy, collaboration, and ideology shape policy advice in Pakistan

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Advising under constraint: how think tank autonomy, collaboration, and ideology shape policy advice in Pakistan

Fatima Abdul Ghaffar^a, Denise Tsang^b, Fiaz Hussain^a  and Rameen Khan^a

^aFatima Jinnah Women University, Rawalpindi, Pakistan; ^bHenley Business School, University of Reading, Reading, United Kingdom

ABSTRACT

This study examines how think tank characteristics—capacity, autonomy, collaboration, and ideological orientation—shape the quality of policy advice in Pakistan, extending the Policy Advisory Systems (PAS) framework to developing contexts. Using content analysis of 50 policy documents from 11 think tanks (2020–2023), the study evaluates four dimensions of advice: substantiveness, specificity, long-term orientation, and goal alignment. A Multivariate Analysis of Covariance (MANCOVA) assesses the effects of organisational attributes and government capacity, with ideology, autonomy, and collaboration treated as covariates. Findings show that autonomy significantly enhances substantive policy advice, while collaboration improves specificity and strategic focus. Ideological alignment strengthens policy relevance and coherence, particularly in politically fragmented settings. Although modest in effect, organisational capacity remains important for analytical credibility. In contrast, government capacity has limited influence on long-term advisory uptake, reflecting short-term political incentives and institutional inertia. The study highlights key reform priorities: strengthening analytical capacity, fostering cross-sector collaboration, ensuring ideological clarity, and safeguarding autonomy. These measures are essential for institutionalising evidence-informed policymaking in developing democracies. By applying PAS to a non-OECD context, the research contributes to comparative advisory systems literature and underscores the role of think tanks as knowledge brokers in constrained governance environments.

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SUBJECTS


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1. Introduction

The evolution of policy advisory systems has garnered considerable scholarly attention as governments increasingly rely on external expertise to inform public decisions. Early studies suggest that traditional internal policy processes have expanded to include a range of external actors, thereby diversifying the sources of expertise and perspectives employed in policymaking (Craft & Howlett, 2013; Hussain et al., 2024). This transformation faces challenges, as the externalisation of policy advice may reduce internal accountability and inhibit continuous learning within governmental agencies (Diamond, 2019; Hussain et al., 2024).

Simultaneously, these developments have introduced a more complex, polycentric environment wherein internal bureaucrats and external experts, including think tanks, contribute to formulating and implementing public policy (Craft & Howlett, 2013; Nachiappan, 2013). The process of externalising policy advice has been scrutinised in the literature for its tendency to dilute the institutional knowledge base and shape advisory practices along partisan lines. Research has shown that the increasing involvement of external actors leads to a dual dynamic in which the technical expertise of bureaucratic structures is either blended with or contested by the strategic inputs of external actors (Craft & Howlett, 2013; Diamond, 2019).

CONTACT Denise Tsang  d.tsang@henley.ac.uk  Whiteknights Campus, Henley Business School University of Reading, Whiteknights Reading RG6 6UD, United Kingdom

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Within this multifaceted framework, think tanks have emerged as pivotal external actors. These organizations are characterized by their autonomy, capacity to build collaborative networks, and ideological underpinnings that guide their policy recommendations (Fraussen & Halpin, 2017; Pautz, 2011). Think tanks are positioned to provide evidence-based policy advice that supplements government capacity while introducing alternative policy perspectives rooted in distinct ideological orientations (Doberstein, 2017).

Moreover, emerging studies emphasize that advisory systems in developing contexts often exhibit epistemic asymmetry, in which domestic policy actors operate within unequal knowledge exchanges shaped by international funding structures and global policy norms (Mansoor & Williams, 2024). These dynamics raise important questions about the neutrality, ideological positioning, and practical influence of think tank advice in governance environments characterized by capacity constraints and political volatility.

Despite these advances, much of the empirical PAS literature remains concentrated in OECD democracies. Comparative studies examining how organisational characteristics shape advisory outputs in developing countries remain limited. Existing research frequently assumes advisory influence or focuses on network positioning, without systematically assessing how internal features—such as autonomy, collaboration, capacity, and ideological orientation—translate into measurable differences in the content of policy advice (Fraussen & Pattyn, 2024). This represents a significant research gap in understanding advisory effectiveness under institutional constraints.

Pakistan provides a particularly relevant case for addressing this gap. Its policymaking environment reflects colonial administrative legacies, periodic democratic disruptions, limitations in bureaucratic capacity, and strong donor presence, conditions that typify many Global South governance systems (Goyal & Saguin, 2019). With more than 30 active think tanks operating across security, economic, and social policy domains, Pakistan offers a suitable empirical setting to examine how think tank characteristics interact with government receptiveness and capacity constraints (Shaikh et al., 2019). Yet systematic empirical evaluation of advisory effectiveness in Pakistan remains scarce.

Against this backdrop, the central research problem of this study is to determine how organizational characteristics of think tanks influence the nature and effectiveness of policy advice within a developing-country advisory system. Specifically, the study extends the PAS framework to a developing-country context by empirically testing the influence of key organizational variables such as organizational capacity, autonomy, collaboration, and ideology on advisory outputs.

The novelty of this research lies in its empirical operationalization of think tank characteristics within a non-OECD advisory system and its quantitative assessment of advisory outputs using structured document analysis. By linking organizational features to observable advisory characteristics, the study moves beyond descriptive accounts of think tank roles and engages recent debates on bias, funding dependence, and knowledge hierarchies in policy advice. In doing so, it contributes to the ongoing refinement of PAS theory and advances comparative understanding of advisory effectiveness in developing democracies. Moreover, the study also contributes to contemporary debates on advisory politicization, donor influence, and epistemic asymmetry by situating think tank performance within Pakistan's governance constraints.

2. Literature review: policy advisory systems and the role of think tanks

Both practitioners and researchers have long recognized the intricate network of policy advice that circulates within government, adapting to the circumstances in which governance operates (Plowden, 1987). Rather than viewing policymaking through a simplistic structural lens, scholars have emphasized the importance of systems thinking. The Policy Advisory System (PAS) embodies this systems-oriented view. It rejects binary perspectives on politics and expertise, advocating for a holistic understanding that connects decision-makers and experts through collaborative platforms.

The concept of a “policy advisory system” was first introduced by Seymour-Ure (1987) and further developed by Halligan (1995), who highlighted the interplay between political authority and policy expertise. According to Halligan, two central dimensions define PAS: the location of advisory actors (inside or outside the government) and the extent of government control. This dual framework portrays

the policy advice landscape as a marketplace of decision-makers, knowledge producers, and brokers (Manwaring, 2019). However, Wilson (2009) argues that physical location does not fully capture the effectiveness of public servants and external advisors. Craft and Howlett (2013) also critique Halligan's insider-outsider dichotomy for overlooking the presence of hybrid actors, such as consultants, who operate in "liminal" spaces where their influence is ambiguous (Howlett et al., 2014).

While Halligan's (1995) framework laid foundational insights into the correlation between actor location and government control, later scholarship urged a rethinking of PAS through more dynamic lenses. Craft and Wilder (2017) called for a "second wave" of PAS research, emphasizing the need to map advisory inputs and explore the content and procedures behind policy advice (Manwaring, 2018).

2.1. Externalization of policy advice

One significant transformation in PAS is the increasing externalization of policy advice. Governments increasingly source advice outside their traditional bureaucratic channels, drawing on consultants, NGOs, think tanks, and even informal public voices (Eichbaum & Shaw, 2007). This shift is attributed to public-sector reforms that have weakened the internal policy capacity of the civil service, as well as to the growing complexity of policy challenges (Craft & Howlett, 2013; Vesely, 2013). The move toward externalization is also influenced by globalization and the need for specialized knowledge (Howlett, 2009; Hussain et al., 2024).

Howlett (2009) notes that externalization is a defining trend in contemporary advisory literature, characterized by a demand for evidence-based, scientifically grounded decision-making. This process has been further accelerated by technological advancements and the rise of data-driven governance (Craft & Halligan, 2017). While this diversification can enhance transparency and responsiveness, it also introduces challenges concerning continuity, accountability, and the coherence of internal learning mechanisms (Diamond, 2019).

Craft and Howlett (2013) suggest that the rise of external advisors reflects a broader reconfiguration of advisory systems, characterized by changing political priorities and shifting governance models. Although external sources increase the variety and specialization of advice, they may also challenge traditional accountability structures. Hussain et al. (2024) warn that externalization, while promoting oversight, can dilute internal expertise and hinder institutional memory.

2.2. The role of think tanks in policy advisory systems

Amid this shift toward external expertise, think tanks have emerged as key players in policy advisory systems. Their historical roots lie in the United States, where they were initially conceptualised as non-governmental, not-for-profit organisations offering problem-solving capacities and democratic intellectual engagement (Lasswell, 1971; McGann & Weaver, 2000). The global influence of American think tanks has been extended through initiatives such as the University of Pennsylvania's annual 'Global Go-To Think Tanks Index' (McGann & Whelan, 2020).

In literature, various typologies have been developed to understand what think tanks are and how they function. Weaver (1989) categorized think tanks into three types: universities without students, contract think tanks and advocacy think tanks. This typology highlighted differences in organizational mission and research orientation. On the other hand, Rich defined think tanks as "independent, non-interest-based, non-profit organizations that produce and principally rely on expertise and ideas to obtain support and to influence the policymaking process" (Rich, 2004, p. 11). This definition is critiqued for assuming independence and underplaying the diversity of government-affiliated, private or political party-linked think tanks. To address this limitation, McGann (2016) developed a broader classification of think tanks based on organizational affiliation and funding sources. The categories include "autonomous and independent, quasi-independent, university-affiliated, political party-affiliated, government-affiliated, quasi-governmental, and for-profit" (McGann, 2016, p.11). This classification shows institutional structure plays a key role in shaping autonomy and strategy.

Fraussen and Halpin (2017) move beyond structure differentiation and categorize think tanks based on their policy capacity, and link organizational characteristics to the types of advice produced in the

context of Australia's PAS. The study indicates that policy impact depends on research capacity (substantial internal expertise to identify problems and implement solutions within political constraints), Organizational autonomy (freedom to choose a policy focus without the funder or political interference), and a long-term policy horizon (ability to move beyond the immediate electoral cycle and provide anticipatory advice). The study further argues that think tanks lacking autonomy operate more as opinion-makers or interest groups than as strategic policy actors.

Fraussen and Pattyn (2024) highlighted that in the Belgian consensus-seeking and neo-corporatist policy advisory system landscape, think tanks are differentiated through temporal niche (position think tank as early warning system and providing long-term anticipatory advice), substantive niche (frame think tank as knowledge brokers) and Procedural niche (reflect think tank adaptation to the country's political system). These studies linked organizational structure directly to the type of policy advice produced. Moreover, Wellstead and Howlett (2022) proposed a broader framework, namely Knowledge-Based Policy Influence Organizations (KBPIOs), grounded in evolving policy research and knowledge utilization activities. This typology categorized research organizations according to their knowledge-based influence i.e., creation, diffusion and mobilization) and their structural features, such as whether they are permanent or ad hoc. This framework highlights the hybridity and diversity of knowledge actors within PAS.

A political economy perspective further highlighted the contextual variation. Zimmerman and Stone (2018) explore Southeast Asian think tanks in the context of the financial crisis and highlight that these think tanks are generally small, linked to an elite group of experts, and state-influenced. While they are less diverse than Western think tanks, their formal and informal advisory networks with the governing body enable them to play an important role in the policy process, shaping both public debate and government decisions, especially during uncertainty and crisis.

In the context of increasing global organisational hybridity, Hernando et al. (2018) suggested that think tanks should be classified according to the functional roles they play in the policy process. They argue that funding-ideology dynamics shape think tanks' advisory content and their ability to challenge the existing power structure. In the context of a politically constrained environment, Djordjevic and Stone (2023) analysed the think tanks in the captured state of the Western Balkans. The study argues that through their reliance on funding from external international donors, think tanks maintain a value-driven agenda and avoid becoming government-organised NGOs.

Expanding the political economy perspective, Taylor and Oviedo (2025) explore think tanks in the African regional context and provide a regional taxonomy based on their origin and proximity to power. According to this study, some think tanks operate as extensions of government, where experts move between think tank roles and government positions. These think tanks benefit from significant government funding. On the other hand, some think tanks function as autonomous organisations while maintaining strong ties with the government based on shared ideological goals, whereas others are more authoritarian and act as a thorn in the government's side. These roles shift based on political transitions, ruling coalitions and strategic positioning. Notably, the study highlights that think tank influence is not only determined by technical capacity but also by funding availability, donor and government pressure, political context, and the nature of the policy challenges. Traditional project-based grants constrain the operations of think tanks to a short-term, donor-led agenda, whereas flexible core support maintains their autonomy and allows them to operate as policy entrepreneurs.

The rise of think tanks highlights broader structural transformations in the provision of policy advice. Governments increasingly depend on these actors to offset internal limitations and fulfil specialised advisory roles (Vesely, 2013). However, the quality and type of advice vary according to think tank capacity and political receptiveness. For instance, think tanks with higher analytical resources are more likely to produce long-term, strategic advice (Fraussen & Halpin, 2017). In contrast, those operating in low-capacity environments may offer short-term, reactive guidance (Goyal & Saguin, 2019). To understand the think tank's effectiveness, examining the organisational dynamics that shape their influence, including autonomy, collaboration, ideology, and institutional capacity, is crucial.

Contemporary literature has expanded Policy Advisory Systems (PAS) research beyond institutional structures to examine power asymmetries, donor influence, and epistemic hierarchies in developing contexts (Khan et al., 2018). Emerging studies argue that think tank autonomy must be understood not only in formal organisational terms but also in relation to funding dependence and transnational knowledge

networks. In Global South settings, advisory independence is often constrained by donor-driven agendas, creating what scholars describe as epistemic asymmetry between domestic policy actors and international funders (Bakır, 2023).

Recent work also highlights methodological pluralism in policy analysis, emphasising mixed-method, network-based, and interpretive approaches to better capture advisory influence beyond document outputs. This is particularly relevant in developing governance systems where informal networks and political brokerage shape advisory uptake more than formal institutional channels (Mansoor & Williams, 2024).

Furthermore, contemporary debates have shifted toward examining bias and politicisation in policy advice, particularly in hybrid or competitive authoritarian systems (Bakır, 2023). These studies caution against equating organisational autonomy with epistemic neutrality, arguing that ideological positioning, donor priorities, and state–elite alignments frequently shape advisory content. By engaging with these recent contributions, the present study situates Pakistani think tanks within broader global debates about advisory inequality, donor dependence, and knowledge hierarchies, thereby updating the PAS framework for application in developing countries.

3. Hypothesis development

3.1. Think tank capacity

The capacity of think tanks—including their human resources, financial stability, and organisational infrastructure—directly shapes their ability to influence public policy. Well-resourced think tanks are better equipped to conduct rigorous research, sustain long-term engagement with policymakers, and respond flexibly to evolving policy challenges (Hussain et al., 2024; Rashid, 2013). In contrast, under-resourced institutions often struggle to maintain relevance or deliver actionable insights. Building and maintaining internal capacity is crucial in dynamic policy environments. Hussain et al. (2024) emphasise that think tanks must invest in continuous capacity-building to remain credible and effective amid political and institutional shifts. Where capacity is lacking, policy advice tends to be fragmented, less credible, and less likely to be adopted.

Stronger capacity—characterised by robust research, skilled personnel, autonomy, and stable funding—allows think tanks to influence governments to pursue more ambitious policies (Morgan, 2006). As knowledge providers, think tanks offer policy proposals and discursive frameworks that inform strategic objectives, particularly in situations where government capacity is limited (Brown et al., 2014; Craft & Halligan, 2017). This reflects the broader trend of externalising policy advice to address complex challenges (Craft & Halligan, 2017; Hustedt, 2019). Jenkins-Smith and Sabatier (1993) further note that high-capacity organisations are better positioned to shape policy priorities through evidence-based advocacy. These findings affirm that enhanced think tank capacity increases credibility and strategic influence within policy advisory systems.

H₁: Higher think tank capacity is positively associated with the government's establishment of more ambitious goals

3.2. Government capacity as moderator

Recent research emphasises the pivotal role of government capacity in determining the nature and quality of policy advice within Policy Advisory Systems (PAS). High-capacity governments, supported by robust internal expertise, enable think tanks to provide more strategic, evidence-based, and actionable policy recommendations (Craft & Halligan, 2017; Fraussen & Halpin, 2017), whereas low-capacity environments constrain both actors, resulting in more limited, short-term advice.

These patterns correspond with theoretical perspectives on policy actor roles (Jenkins-Smith & Sabatier, 1993; Snare, 1995), governance capacity (Kaufmann et al., 2002), and policy learning, which emphasise the link between government capacity and the ability to absorb complex advice. Empirical studies reinforce this view: Khan and Hussain (2024) underscore the importance of executive capacity in shaping policy effectiveness; Hussain et al. (2024) demonstrate that stronger government capacity fosters more productive think tank engagement; Taylor et al. (2023) highlight similar patterns at the local level; and

Migone and Howlett (2024) stress the necessity of sufficient internal capabilities for effective external collaboration. Together, these findings establish government capacity as a core factor influencing how think tanks contribute to policy development across advisory systems.

H₂: Think tanks in the presence of high-capacity governments are more likely to influence government long-term advice.

3.3. Covariates hypothesis

3.3.1. Think tank collaborations

Think tanks engage a wide range of stakeholders—including analysts, researchers, media, policy advisors, and public relations experts—strengthening their capacity to shape policy discourse and promote long-term strategic thinking (Bache & Reardon, 2013; Medvetz, 2010). Within network governance theory, *collaborative networks* are central to effective governance, enabling think tanks to mobilise broader support and resources for implementing long-term advice (Provan & Kenis, 2007).

Social capital, comprising networks, norms, and trust, further explains how think tanks build influence, persuading governments and stakeholders to adopt forward-looking policies (Putnam, 1994). Although presenting themselves as neutral, think tanks remain embedded in political, academic, media, and business networks, allowing them to offer contextually grounded recommendations (Pautz, 2013).

Collaborative partnerships with government agencies, civil society, academia, and international organisations enable think tanks to contribute substantively to the policy process (Fraussen & Halpin, 2017). Such collaborations become even more vital during policy uncertainty or crisis, expanding think tanks' access to timely information and decision-making spaces. Thematic specialisation and cross-institutional linkages also strengthen think tanks' soft power, enabling them to influence global governance (Roger-Monzó & Castelló-Sirvent, 2023). Moreover, the participation in collaborative networks enhances a think tank's legitimacy and relevance, while a lack of stakeholder engagement can limit its impact. Hence, collaborative networks serve as critical mechanisms through which think tanks strengthen their influence and support the implementation of long-term policy advice.

H_{3a}: Think tanks with higher levels of collaboration are more likely to facilitate the implementation of long-term policy advice by governments

3.3.2. Think tank ideology

Ideological orientation is a key factor shaping the nature and reception of think tank advice. Think tanks often operate within ideological frameworks that shape their research agendas and policy recommendations. Moreno (2024) notes that alignment between think tank ideologies and political actors facilitates policy uptake by enhancing legitimacy and reinforcing shared narratives. However, ideological positioning is a double-edged sword. While alignment can foster access and influence, it may also introduce bias and limit the scope of policy debate (Busch & Judick, 2021; Pautz, 2013).

Moreover, ideologically driven think tanks also play a critical role in shaping the content and direction of policy advice by acting as policy entrepreneurs, promoting forward-looking, value-based solutions to systemic challenges (Christopoulos & Ingold, 2015). Ideological alignment strengthens the resonance of policy proposals and engagement with political actors (Fry & Islar, 2021). According to ideological alignment theory, shared values with political actors increase credibility and influence (Campbell, 2002). Embedded in collaborative networks, ideologically aligned think tanks generate actionable, value-based solutions with greater policy impact (Fraussen & Pattyn, 2024; McGann, 2021). Their participation in epistemic, advocacy, and discourse coalitions facilitates sustained collaboration and knowledge sharing (Dolowitz & Marsh, 2000; Hajer, 1993; Sabatier, 1987). In sum, ideological orientation shapes the think tank's advice, its policy impact, and the specificity and relevance of its recommendations.

H_{3b}: The ideology of think tanks significantly influences the nature of the policy advice provided, with ideologically aligned think tanks more likely to provide specific policy advice.

3.3.3. Independent autonomy

Autonomy is a foundational feature that determines the extent to which think tanks can operate independently of governmental and donor influence while offering critical perspectives on public policy. Scholars have demonstrated that greater autonomy enables think tanks to challenge dominant narratives and promote inclusion-driven policies, particularly in politically sensitive areas (Caló et al., 2024). However, reliance on public or donor funding can constrain this independence, pressuring think tanks to align with the agendas of their funders, thereby compromising their critical voice (Rashid, 2013).

Based on organisational autonomy theory, independent institutions are better positioned to produce objective, high-quality outputs free from political interference. In contrast, resource dependency theory cautions that financial reliance on donors may compromise the integrity of advice (Pfeffer & Salancik, 2015). Bressers et al. (2017) and Djordjevic and Stone (2023) further emphasise the critical role of autonomy in enabling independent policy engagement, particularly in politically constrained environments. Jezierska and Sörbom (2021) articulate the “independence paradox,” where think tanks must balance autonomy and influence. Strategic engagement with stakeholders often entails trade-offs between preserving credibility and gaining access to policymaking arenas. Therefore, effectiveness may hinge on how adeptly think tanks navigate these tensions while safeguarding their intellectual integrity. Thus, the study hypothesises:

H_{3c}: Think tanks with higher autonomy are more likely to provide substantive policy advice.

These theoretical foundations provide a robust framework for understanding the dynamics and interactions underpinning the hypotheses, offering a comprehensive explanation of how and why think tanks influence policy processes and outcomes. Figure 1 provides a conceptual framework based on the above hypothesis.

4. Data and method

4.1. Think tank selection process and document criteria

This study evaluates think tank policy advice through systematic content analysis of published knowledge products rather than relying on stated organisational strategies (Fraussen & Halpin, 2017). In the absence of an authoritative sampling frame for Pakistani think tanks, an initial pool of 33 institutions was compiled from institutional listings, policy networks, existing inventories (McGann, 2016) and self-identification as policy research organisations producing sustained policy-oriented output. From this population, purposive inclusion criteria were applied to ensure alignment with the study’s analytical requirements. Specifically, only think tanks with available data on key independent variables, particularly capacity indicators such as staff strength and budget, were retained (n=26).

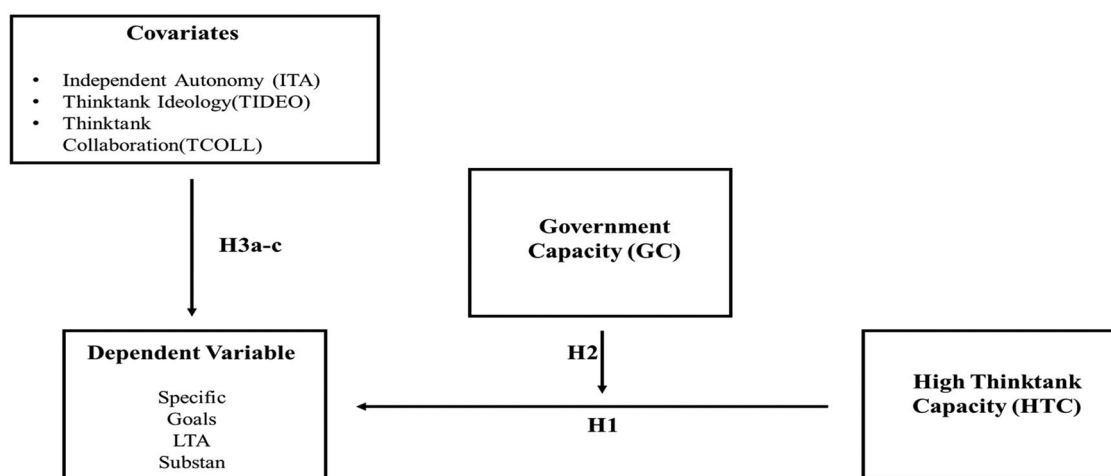


Figure 1. Conceptual model of assessing think tank capacity.

Because the study examines the production and nature of policy advice, an additional substantive criterion required that think tanks demonstrate active engagement in producing formal policy-oriented knowledge products and make these outputs publicly accessible in downloadable form. This requirement was methodological rather than incidental: systematic qualitative content analysis necessitates full-text access to complete documents to ensure transparency, replicability, and consistent coding. Institutions lacking accessible policy documents could therefore not be evaluated under a comparable analytical framework. Applying these criteria resulted in a final sample of 11 think tanks ([Supplementary File 1](#)). This selection reflects a purposive, criteria-based strategy grounded in the study's research objective rather than a convenience approach based on website design or general availability of materials. While this criterion aligns with the study objectives, it may also introduce transparency or visibility bias. Think tanks that lack digital infrastructure or engage in an informal advisory process may be underrepresented in the sample. Therefore, the analysis is limited to institutions that produce publicly available output, and does not take into account actors operating through informal or non-public channels.

Policy-relevant documents addressing national-level policymaking were collected primarily for 2020, the year corresponding to available organisational profile, staffing, and budget data; where 2020 publications were unavailable, documents from the nearest period (2019–2023) were included. Eligible document types comprised working papers, policy briefs, and issue briefs—formats specifically intended to convey policy analysis and recommendations. Books, journal articles, and opinion pieces were excluded because their purpose, structure, and advisory function differ from formal policy outputs. This process yielded 80 knowledge products across the 11 think tanks.

To prevent overrepresentation of more prolific institutions and maintain balance across cases, a transparent selection protocol was applied: for think tanks with more than 10 eligible publications, 10 documents were randomly selected; for those with fewer than 10, all were included. Duplicate or substantially similar documents were replaced through random reselection. This procedure produced a final analytical sample of 50 knowledge products. Each document was then systematically examined, where policy advice statements were identified and coded using a structured coding protocol. To enhance coding reliability, a subset of documents was independently reviewed twice by the researcher at different time points, and coding decisions were cross-checked for consistency. Ambiguities were resolved through iterative refinement of coding rules. This procedure ensured stable and consistent classification of advice characteristics across documents, prioritising executive summaries, introductions, conclusions, and policy recommendation sections, and supplemented, where necessary, with full-text searches for modal verbs indicating prescriptive policy advice. Extracted advice statements were recorded in a standardised database for analysis. The detailed coding scheme, sample extracts, and operational definitions for all variables included in the study are provided in [Supplementary File 2](#).

4.2. Variables and coding method

4.2.1. Dependent variables

The study examines four crucial dimensions of the dependent variables. The first is long-term advice (LTA), which reflects the temporal aspect of the advice by differentiating between long-term and short-term recommendations. It is defined as anticipatory, strategic, and system-wide in scope (Prasser, 2006) and is coded as 1=Long term and 2=Short term. The second dimension is Substantive advice, which reflects the nature of the advice and refers to recommendations that alter policy content, resource allocation, institutional mandates and programmatic priorities. The variable is coded as 1=substantive and 2=procedural.

The third dimension is Goal-Oriented advice, which reflects the focus of the advice and examines whether it centres on policy goals or policy instruments. As per Howlett and Cashore (2009) typology, goal-oriented advice addresses overarching aims, strategic direction, or normative objectives. This variable is coded as 1=goal orientation and 2=policy orientation. The fourth dimension is specificity, which refers to how clearly a recommendation identifies the responsible actor, concrete action, instrument or mechanism, and the relevant sector or implementation detail. This advice is measured on an ordinal scale (1=Least specific, 2=Moderate, 3=Most specific).

The study extracted 335 advisory statements from the 50 knowledge documents produced by 11 selected think tanks. The advisory statements were extracted from the executive summary, introduction,

conclusion and policy recommendations sections. In case no statements were found in these sections, the document was scanned for modal verbs. Modal verbs (e.g., *can*, *must*, *may*, *should*, *will*) were used as linguistic markers to help identify advisory statements.

The classification of advice was grounded in established theoretical frameworks. Specifically, temporality (long-term vs short-term) was coded at the knowledge product level using the distinguishing characteristics proposed by Prasser (2006), which emphasise anticipatory versus reactive orientation, time horizon, and strategic scope. Substantiveness (substantive vs procedural), goal-orientation, and specificity were coded at the level of each advisory statement and subsequently aggregated to the knowledge product level to enhance robustness. The typology developed by Howlett and Cashore (2009) guided the classification of advice as goal-oriented versus instrument-oriented and abstract versus detailed. Thus, the coding scheme is theory-driven rather than purely linguistic.

The individual advisory statements were coded across four dimensions, and then these statements were aggregated per document to compute the continuous dependent variable. This approach converts categorical coding to an interval-level measure to provide a robust indicator of each document's advisory profile and to conduct multivariate analysis.

4.2.2. Independent and control variables

The study includes two independent variables: the level of think tank research capacity and government capacity, each classified as high or low. Government Capacity (GC) is coded as high based on sector-specific administrative and fiscal strength, operationalised through the size of the development ("Plan") budget (approximately USD 1 billion or above), central or provincial government staff strength and a gazetted-to-non-gazetted employee ratio greater than 0.5. Accordingly, think tank capacity was coded as high (High Think Tank Capacity, HTC) when the knowledge product was produced by an organisation with More than 30 full-time researchers, or an annual budget exceeding USD 5 million.

The study has also incorporated some control variables, such as the level of autonomy of think tanks, think tank ideology, and think tank collaboration as covariates, helping to isolate the effects of our primary independent variables. Think tank ideology (TIDEO) was coded along a three-point scale: Conservative = 1, Moderate = 2, Liberal = 3, capturing underlying values, policy preferences, and strategic orientation, following established approaches in political science (Rich, 2004; Stone & Ladi, 2017).

Think Tank Collaboration (TCOLL) is coded on a three-point scale: Minimal = 1, Moderate = 2, and Comprehensive = 3, reflecting the extent and depth of engagement with external actors, interdisciplinary research, and multilateral partnerships. This approach draws on the policy networks and think tank literature, which links collaboration to stakeholder engagement (Rich, 2004; Stone, 2013), interdisciplinary research scope (McGann, 2016; Stone, 2007), sustained partnership networks (Hanf & O'Toole, 1992), active knowledge dissemination (Rich, 2004; Weiss, 1977), and strategic orientation toward complex policy problems (Börzel & Risse, 2000; Howlett & Ramesh, 2003).

Autonomy is determined by the degree of control, classifying think tanks as Independent (ITA) in the analysis. Think tanks operating as legally and administratively autonomous entities were coded as independent = 1, while those embedded within state, military, university, or political institutions were coded as not independent = 2 (Abelson, 2009; Fraussen & Halpin, 2017).

4.3. Descriptive statistics

The descriptive statistics presented in Table 1 indicate that the dependent variables, i.e., Substantive, Specificity, LTA (Long-Term Advice), and Goals, were measured across 335 observations and are coded on a dichotomous scale ranging from 1 to 2. The mean scores for these variables are relatively high: Substantive (M=1.67, SD = 0.47), Specificity (M=1.62, SD = 0.49), LTA (M=1.81, SD = 0.39), and Goals (M=1.83, SD = 0.37). This suggests that most coded policy advice tends to reflect higher levels of long-term orientation and, in particular, goal orientation, with comparatively lower variability in these two dimensions, as reflected in their smaller standard deviations.

The independent variables, measured across 50 think tanks, show slightly greater variation. ITA (M=2.16, SD = 0.69), TIDEO (M=2.02, SD = 0.87), and TCOLL (M=2.40, SD = 0.56) are coded on a three-point scale

Table 1. Descriptive statistics.

	N	Minimum	Maximum	Mean	Std. Deviation
Substantive	335	1	2	1.67	0.472
Specificity	335	1	2	1.62	0.486
LTA	335	1	2	1.81	0.394
Goals	335	1	2	1.83	0.374
ITA	50	1	3	2.16	0.693
TIDEO	50	1	3	2.02	0.872
TCOLL	50	1	3	2.40	0.559
HTC	50	1	2	1.57	0.496
GC	50	1	2	1.46	0.499

Table 2. Results for the multivariate test for all factors.

Effect	Value wilks lambda	F-statistics	Sig	Partial eta squared
Cov₁ TIDEOL	$\wedge = 0.953$	F(4,325) = 3.963	0.004	0.047
Cov₂ TCOLL	$\wedge = 0.948$	F(4,325) = 4.478	0.002	0.052
Cov₃ ITA	$\wedge = 0.945$	F(4,325) = 4.737	0.001	0.055
HTC	$\wedge = 0.970$	F(4,325) = 2.493	0.043	0.030
GC	$\wedge = 0.963$	F(4,325) = 3.136	0.015	0.037
HTC*GC	$\wedge = 0.994$	F(4,325) = 0.50	0.729	0.006

(1–3), indicating moderate average levels of autonomy, ideological positioning, and collaboration, with ideology showing the greatest dispersion among think tanks. HTC ($M = 1.57$, $SD = 0.50$) and GC ($M = 1.46$, $SD = 0.50$), measured on a two-point scale (1–2), suggest a relatively balanced distribution across categories, though with moderate variability. Overall, the descriptive results indicate sufficient variation across both dependent and independent variables to justify subsequent multivariate analysis.

4.4. Statistical analysis

Multivariate Analysis of Covariance (MANCOVA) is a statistical technique used to compare groups on multiple dependent variables while controlling for one or more covariates. The study contains conceptually related dependent variables, i.e., substantiveness, specificity, long-term orientation, and goal orientation. Together, these variables represent different aspects of advisory style. Because these dimensions are conceptually related, it is more appropriate to analyse them jointly rather than separately. In addition, conducting separate ANOVAs would increase the risk of Type I error and ignore the shared variance among the dependent variables. Therefore, to account for this covariance structure, which captures the overall advisory of each document and also tests for differences across the combined advisory profile, the study uses MANCOVA. To verify the suitability of the MANCOVA model, certain preliminary diagnostic tests were conducted. All statistical assumptions, such as normality, linearity, multicollinearity, and homogeneity of covariance matrices, were verified and provided in the [Supplementary File 3](#).

5. Results

The empirical analysis presented below is based on the conceptual relationship in [Figure 1](#), which outlines how variations in think tank capacity, government capacity, collaboration, ideology, and autonomy shape the dimensions of policy advice within policy advisory systems. The MANCOVA results reveal significant multivariate effects of covariates and independent variables on the dependent variables in [Table 2](#). The Box's M test value of 28.35 with a p-value of 0.171 confirms the assumption of homogeneity of covariance matrices, validating the MANCOVA results.

High Think Tank Capacity (HTC) shows a Wilks' Lambda of 0.970, an F-statistic of 2.493, and a p-value of 0.043, indicating a small effect size (partial eta squared = 0.030) and a significant influence. Government Capacity (GC) has a Wilks' Lambda of 0.963, an F-statistic of 3.136, and a p-value of 0.015, with a moderate effect size (partial eta squared = 0.037), showing a more substantial impact than HTC. Covariates such as Think Tank Ideology (TIDEOL), Think Tank Collaboration (TCOLL), and Independent Think Tank Autonomy (ITA) also demonstrate significant impacts with moderate effect sizes, as reflected by their respective Wilks' Lambda, F-statistics, and p-values. Specifically, TIDEOL has a partial eta squared of 0.047,

TCOLL 0.052, and ITA 0.055. The interaction between HTC and GC does not significantly affect the dependent variables, suggesting that individual contributions of these factors are more critical than their combined interaction.

Furthermore, the Between-Subjects Tests revealed more specific patterns. The findings reveal that higher think tank capacity (HTC) exerts a small but marginally significant effect on the formulation of substantive government goals only, $F(1, df)=3.223, ** p=0.074, \eta^2=0.010$), providing limited empirical support for H1. The think tank collaboration (TCOLL) analysis significantly enhances both the specificity ($F(1, df) = 11.743, p=0.001, \eta^2 = 0.034$) and long-term orientation ($F(1, df) = 10.661, p=0.001, \eta^2 = 0.031$) of policy advice, offering partial support for H3a.

The findings also validate H3b, demonstrating that think tank ideology significantly shapes the specificity ($F(1, df) = 5.906, p=0.016, \eta^2 = 0.018$), long-term orientation ($F(1, df) = 9.319, p=0.003, \eta^2 = 0.027$), and goal formulation ($F(1, df) = 4.252, p=0.040, \eta^2 = 0.013$) of policy advice. Moreover, the findings confirm H3c, showing that think tank autonomy significantly predicts the provision of substantive policy advice ($F(1, df) = 6.557, p=0.011, \eta^2 = 0.020$). However, the insignificant relation between government capacity and policy advice has been found. In sum, think tank characteristics such as ideology, autonomy, and collaboration have a stronger effect on advisory content than government capacity.

6. Discussion

The analyses guided by the conceptual relationships illustrated in [Figure 1](#) show how think tank characteristics and government capacity influence the policy advice within Pakistan's policy advisory system. The significant impact of research capacity on substantive policy advice is consistent with Capacity Building and Policy Advocacy theories, which underscore the role of organisational capabilities in shaping policy priorities (Jenkins-Smith & Sabatier, 1993; Morgan, 2006), suggesting that even incremental gains in think tank capacity can enhance policy relevance (Roger-Monzó & Castelló-Sirvent, 2023; Fraussen & Pattyn, 2024).

Key dimensions such as thematic specialisation, scientific expertise, and organisational autonomy strengthen think tanks' advisory influence. Financial resources expand access to decision-makers (Furnas et al., 2023), while strategic autonomy enables greater control over policy narratives (Perez & Agafonow, 2023). The absence of significant effects on specificity, long-term advice (LTA), and overall goals underscores the contingent nature of policy uptake, shaped by complex policy network dynamics and selective government receptivity (Brown et al., 2014; Craft & Halligan, 2017).

The think tank's autonomy significantly affects substantive policy advice. This finding supports the pivotal role of organisational independence in safeguarding the analytical depth and objectivity of policy outputs. The finding is well-grounded in organisational autonomy theory, which asserts that institutional independence fosters critical, high-quality policy production (Gornitzka & Maassen, 2000), while resource dependency theory highlights the risks of compromised autonomy when funding sources exert excessive influence (Pfeffer & Salancik, 2015). Autonomy thus protects think tanks from political or donor-driven pressures that might erode the integrity of their substantive analysis. Recent empirical studies reaffirm the importance of autonomy, particularly in politically constrained and donor-dependent environments such as Pakistan, where it enables think tanks to challenge dominant narratives, propose alternative policy options, and engage in independent problem framing (Bressers et al., 2017; Djordjevic & Stone, 2023). In such contexts, autonomy is a precondition for maintaining substantive, evidence-based policy engagement.

In sum, the study's findings provide empirical support for established theories using the PAS. In the context of Lower- and Middle-Income Countries (LMIC), the study highlights important variations. Moving beyond anecdotal accounts, the quantitative analysis demonstrates that HTC and Organisational autonomy play an important role in influencing substantive policy advice. The findings are consistent with Fraussen and Pattyn (2024) niche theory study, which discusses that in PAS, the strong institutional structure is significant in producing high-quality research output. The findings also align with Taylor and Oviedo (2025), who highlight the importance of institutional structure for high-quality research.

The collaborative engagement enables think tanks to deliver more detailed (specificity) and forward-looking (Long-term) recommendations. However, no significant effects were observed for

substantiveness or broader policy goals, reflecting the selective influence of collaboration within complex policy environments. The network governance theory emphasises cross-stakeholder collaboration as a critical indicator for effective governance (Provan & Kenis, 2007). It also builds social capital, fostering trust, norms, and relational ties essential for sustained policy influence (Pautz, 2013; Putnam, 1994). Through epistemic communities and advocacy coalitions, think tanks co-develop contextually grounded and durable policy frameworks (Hajer, 1993; Sabatier, 1987), enhancing their legitimacy and transparency (Denham & Garnett, 1999). The results align with the Belgian empirical study, which corroborates the positive role of collaboration in strengthening policy influence and fostering inclusive, innovative solutions (Fraussen & Pattyn, 2024). Such collaborative arrangements support democratic governance by integrating diverse perspectives and improving knowledge translation (Molinengo et al., 2021; Fry & Islar, 2021).

In the Asian context, Zimmerman and Stone (2018) identified the think tank's role as knowledge brokering, reflecting its collaboration with diverse stakeholders to strengthen the technical depth and long-term orientation of policy advice. Moreover, think tanks in PAS often collaborate to find their niche and produce relevant advice (Fraussen & Pattyn, 2024). However, the current study findings show that it does not affect the adoption of broader policy goals. While Zimmerman and Stone (2018) argue that regional collaboration shifts the broader policy goals, in the context of Pakistan, it enhances the analytical quality of advice but is insufficient to overcome the political constraints that prevent stakeholders from changing their objectives.

Furthermore, think tanks' ideology significantly shapes forward-looking and goal-oriented recommendations that resonate with decision-making bodies. This pattern reflects the well-documented role of ideology in influencing think tank behaviour, despite their formal non-partisan status (Jones & Baumgartner, 2005; Marsh & Miller, 2012; Rich, 2004). Ideology enables think tanks to act as policy entrepreneurs, promoting value-driven, structured solutions (Christopoulos & Ingold, 2015; Fry & Islar, 2021) while fostering strategic compatibility with policymakers (Campbell, 2002; Howlett & Migone, 2013). Ideological coherence also facilitates access to supportive policy networks, enhancing trust, credibility, and relevance (Fraussen & Halpin, 2017; Fraussen & Pattyn, 2024; McGann, 2021). The "independence paradox" further explains how ideologically affiliated think tanks balance perceptions of objectivity with strategic embeddedness in media, academia, and political institutions (Denham & Garnett, 1999; Jezierska & Sörbom, 2021; Pautz, 2013).

Empirical studies from Serbia and other governance contexts corroborate these dynamics, showing that ideological alignment fosters implementable, inclusive policy solutions (Djordjevic & Stone, 2023; Molinengo et al., 2021). The influence of think tank ideology on goal-oriented recommendations validates it as a strategic tool for policy entrepreneurship, enabling think tanks to provide value-driven advice that aligns with decision-makers' preferences (Grömping & Halpin, 2021). In the context of Pakistan, think tanks' ideologies may increase policy relevance without compromising analytical rigour.

The insignificant impact of government capacity on policy advisory content suggests that institutional strength alone is insufficient to ensure engagement with policy recommendations, requiring complementary factors such as political will, policy entrepreneurship, and active stakeholder engagement (Howlett & Newman, 2010; Kaufmann et al., 2002). In Pakistan, political incentives, red tape, and political instability may outweigh administrative capacity in shaping policy advice. In low- and middle-income countries, the lack of political will and active stakeholder engagement, bureaucratic inertia, and short-term political priorities (Taylor & Oviedo, 2025) outweigh institutional strength.

Overall, the study moves beyond supporting existing theories and provides a scalable and replicable framework to examine the knowledge production organisation and its influence on policy advice within the Lower and Middle Income Countries (LMIC) PAS. Most importantly, the insignificant influence of government capacity challenges the dominant assumption in PAS literature that higher government capacity leads to greater engagement with policy advice. In the context of Pakistan, the insignificant effect indicates a shift in analytical focus from state capacity to the internal strength of knowledge organisations, suggesting that political incentives and institutional dynamics outweigh administrative strength. This highlights the urgency of prevailing political constraints, such as short-term political priorities, coupled with political instability, external pressures, and bureaucratic inertia, that obstruct long-term policy implementation.

Furthermore, findings show that think tanks enhance the substantive and forward-looking supply of advice through autonomy, collaboration, ideological alignment and internal capacity. Therefore, in a

politically constrained environment such as Pakistan, enhancing research capacity and institutional autonomy is vital for improving the quality of advice. These findings contribute to the PAS theory, which holds that, in the context of LMICs, advisory supply conditions may be more influential than state demand for policy advice.

7. Conclusion and policy implications

This article extends the PAS framework to a non-OECD context by examining the advisory role of think tanks in Pakistan. While PAS scholarship has largely focused on advanced democracies (Craft & Howlett, 2013; Howlett, 2009), this study responds to calls for contextual expansion by testing how organisational characteristics operate within a constrained governance environment. The findings contribute to comparative PAS research by identifying modest but theoretically consistent associations between think tank features and advisory outputs.

The results indicate that autonomy is positively associated with the substantiveness of policy advice. However, the effect sizes are small, suggesting limited explanatory power. Given the small effect sizes, these findings should be understood as indicative rather than determinative within a complex advisory environment. Autonomy appears to function as an enabling condition that may enhance analytical independence and credibility (Abelson, 2009; Stone, 2007), but it does not, in itself, generate substantive policy influence.

Collaboration (TCOLL) shows statistically significant relationships with specificity and long-term orientation of advice. While this aligns with PAS literature emphasising the importance of advisory networks and policy learning in shaping policy outputs (Craft & Halligan, 2020; Fraussen & Halpin, 2017), these effects are modest and should be interpreted cautiously given the limited dataset ($n=50$ documents). Collaboration may facilitate information exchange and coordination, but its measurable impact in this study remains modest.

Ideological orientation also demonstrates associations with long-term and goal-specific advice. However, long-term orientation was operationalised through keyword frequency counts, which may capture thematic emphasis rather than conceptual depth. As Krippendorff (2019) notes, quantitative content analysis identifies patterns in textual data but cannot fully assess normative coherence or analytical sophistication. Therefore, the observed influence of ideology should be treated as exploratory.

From the policy perspective, the study has contextually relevant insights. Several documents in the sample explicitly separated technical analysis from political commentary and provided methodological transparency. This indicates that strengthening internal research protocols, such as peer review mechanisms, transparent citation practices, and disclosure of funding sources, may enhance perceived credibility without requiring large structural reforms. However, given Pakistan's reliance on donor funding and government contracts, complete financial autonomy may be unrealistic. Incremental safeguards for analytical independence may therefore be more feasible than structural separation.

Policy briefs that referenced inter-organisational partnerships, joint workshops, or multi-stakeholder consultations tended to provide more operational recommendations (e.g., phased implementation timelines or defined institutional responsibilities). This suggests that structured collaboration mechanisms, such as thematic working groups or co-authored policy briefs, may improve the clarity of recommendations. However, collaboration requires resources and trust, both of which may be constrained by political polarisation and competition for donor funding. Therefore, encouraging collaboration should be framed as selective and issue-based rather than system-wide.

Third, policymakers should not interpret ideological alignment as inherently strengthening advisory quality. Instead, the findings indicate that ideologically coherent documents were more likely to articulate extended time horizons (e.g., multi-year reform sequencing). Government agencies could therefore benefit from requesting scenario-based or phased policy proposals when commissioning external advice.

Importantly, resource constraints and political dynamics remain central barriers. Many of the analysed documents were short policy briefs (5–15 pages), reflecting funding limitations and rapid-response advocacy pressures. Expanding analytical depth would require longer project cycles, stable funding streams, and institutionalised consultation channels, conditions that may not be immediately available. Furthermore, bureaucratic turnover and politicisation of appointments may limit the uptake of long-term advisory

recommendations. Therefore, rather than advocating broad structural reform, the findings support incremental measures within existing institutional realities for strengthening Pakistan's policy advisory environment.

While the study suggests that think tanks may act as intermediaries within Pakistan's advisory system, this conclusion is constrained by methodological limitations. Reliance on document analysis alone, without interviews, surveys, or triangulation, limits the ability to confirm intermediary dynamics or causal influence. PAS research increasingly highlights the value of multi-method approaches to capture advisory interactions and institutional embeddedness (Craft & Howlett, 2013). Future research incorporating interviews, network analysis, and longitudinal designs would strengthen causal inference and external validity.

Moreover, the study measures think tank and government capacity using observable indicators, such as budget allocation and human resources, to capture organisational-level operational capacity and its influence on policy advice, research production, and strategic position within the PAS. However, this simple operationalisation does not capture the dynamic and multidimensional nature of capacity. In the literature, capacity is understood to produce rigorous research, maintain financial stability, sustain credibility and navigate the political environment (Fraussen & Halpin, 2017; Taylor & Oviedo, 2025). While the present technocratic coding captures the enabling condition, it does not take into account research quality, leadership skills, organisational culture, or relational legitimacy.

Evidence from the Think Tank Initiative (TTI) survey indicates that policy actors prioritise credibility, relevance, researchers' expertise, and the accessibility of research to stakeholders over organisational size (Baertl & Rogel, 2022; Hazime et al., 2018; 2019). Moreover, Ulloa et al. (2025) suggest that think tank capacity is better defined by its perceived trustworthiness and objectivity than by budget size alone. Furthermore, capacity is not static but changes over time in response to donor pressure, political transitions, funding, crisis context, and internal organisational changes (Djordjevic & Stone, 2023; Taylor & Oviedo, 2025; Ulloa et al., 2025). In the current study, capacity is limited to its structural dimension and does not capture governance dynamics such as corruption, bureaucratic fragmentation, or the broader political landscape. Future studies could adopt a more comprehensive operationalisation of capacity that captures its multidimensional and longitudinal nature.

Similarly, think tank capacity does not account for research quality or its influence on policy. According to the International Development Research Centre (IDRC) Research Quality plus framework, organisational impact is not measured by its internal resources but by research integrity, importance, legitimacy and position of use (Ofir et al., 2016). A think tank can be highly effective through high-quality, relevant research despite limited budgets and fewer staff. Future studies should incorporate these research quality factors to achieve a comprehensive understanding of the effectiveness of think tank policy advice.

Overall, this study identifies theoretically consistent, yet modest, associations that contribute to the comparative development of the PAS framework. Situating think tanks within a developing-country policy-advisory context provides a foundation for future research on the effectiveness of advisory under institutional constraints.

Note

1. Note: η^2 represents Partial Eta Squared refers to the F-statistic. $*p < 0.05$ indicates statistical significance, while $**p < 0.10$ suggests a trend towards significance.

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About the authors

Fatima Abdul Ghaffar is a PhD candidate in Public Management in the Department of Public Administration at Fatima Jinnah Women University, Rawalpindi, Pakistan. Her research interests include climate change and climate finance.

Denise Tsang is a Lecturer in International Business and Strategy at Henley Business School, University of Reading, United Kingdom.

Fiaz Hussain is an Associate Professor and Chairperson of the Department of Public Administration at Fatima Jinnah Women University, Rawalpindi, Pakistan. His research interests include policy advisory systems, policy capacity, governance, and social policy.

Rameen Khan is a PhD candidate in Public Management in the Department of Public Administration at Fatima Jinnah Women University, Rawalpindi, Pakistan. Her research interests include policy capacity, policy advisory systems, and economic modelling.

ORCID

Fiaz Hussain  <http://orcid.org/0000-0002-4214-477X>

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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