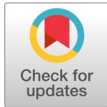


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Psychological Drivers and Barriers of Innovation in Public Sector Universities: Evidence from Punjab, Pakistan

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Abstract

Innovation in Public Sector Organizations (PSOs), particularly in Higher Education Institutions (HEIs), has been recognized as a critical factor for their effectiveness and sustainability. However, innovation in Public Sector Universities (PSUs) of developing context emerges not merely through structural conditions but is also shaped by underlying psychological dynamics that generally remain underexplored. The purpose of this study was to explore critical psychological drivers and barriers which influence innovation trajectory in PSUs in Pakistan. The study was guided by the proposition that innovation in PSUs is influenced by dynamic interaction of psychological factors and institutional structures. Following a qualitative research design, data was collected through interviews from 42 participants comprising senior administrative leadership from PSUs across Punjab, Pakistan. The findings revealed that innovation is perceived as a continuous, context-specific, and adaptive phenomenon. Furthermore, the process is supported by intrinsic motivation, willpower, and leadership behavior, simultaneously constrained by fear of failure, career risks, authority concerns, and resistance to change. These behavioural dynamics are reinforced by institutional factors, such as bureaucratic rigidity, policy misalignment, and reliance on outdated administrative structures. The study concluded that innovation in PSUs is not merely a technical or policy driven phenomenon, rather a psychological and contextual trajectory determined by dynamic interaction of psychological drivers, barriers, and institutional structures. By integrating psychological and institutional perspective, the study contributed to the literature on Public Sector Innovation (PSI) while offering a practical model of fostering innovation in PSUs of Pakistan.

Keywords: higher education, innovation, organizational behavior, psychological barriers, psychological drivers, Public Sector Universities

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Introduction

Innovation has emerged as a critical component for Public Sector Organizations (PSOs) to improve efficiency, responsiveness, and better service delivery in increasingly dynamic, complex, and resource constrained environments (Ndebele & Enaifoghe, [2023](#)). In PSUs, innovation is not only essential for teaching, research, and administration but also to address societal demands and global sustainable development agenda (Aithal & Maiya, [2023](#)). Despite recognition of its importance, Public Sector Innovation (PSI) remains uneven and limited, particularly in a developing context where structural rigidities and resource constraints influence institutional functioning (Cinar et al., [2021](#)). Traditionally, innovation has been identified as a technical or procedural phenomenon involving introduction of new technologies, policies, and systems. However, studies indicate that innovation is not merely a technical or systematic intervention but a psychological and behavioural phenomenon, shaped by its understanding, perception, and interpretation in organizational settings by its members (Newman et al., [2020](#)).

In PSOs, where formal rules, rigid hierarchies, and accountability mechanisms dominate, innovation is not dependent solely on formal policy directives but is actually driven by thinking patterns, motivation, and ability to take risks (Christensen et al., [2020](#)). PSUs in Pakistan offer a unique environment characterized by rigid hierarchies, formal rules, and bureaucratic administrative procedures with multiple layers of authority (Hussain et al., [2025](#)). At the same time, these institutions are inherently places of knowledge creation, innovation, and problem solving. This duality of structural and functional requirements create a tension where innovation has to coexist with stability and change. Therefore, innovation in universities is not always driven by formal policies but often dictated through individual efforts, self-motivation, and informal adaptations (Pambudi et al., [2025](#)).

Evidence indicates that innovation in such contexts emerges out of psychological factors including intrinsic motivation, risk taking ability, and courage to challenge existing patterns. Individuals with strong internal drive are more likely to practice innovative behaviours, despite having low formal support (Che, [2026](#); Kapse et al., [2025](#)). Similarly, some psychological barriers, such as fear of failure, resistance to change, and concerns for career growth may discourage individual actors in their endeavours to practice

innovative behaviours (Gülbahar, [2017](#)). These psychological dynamics are more evident in PSOs due to their inherent characteristics of structural accountability, inertia, authority, and non-acceptance of perceived failures associated with innovation.

In the context of Pakistan, these dynamics appear more visible where PSUs operate under unified structures and regulatory frameworks that emphasize procedural conformity and standardization and any deviation from standard procedures is discouraged (Khanum & Khan, [2025](#)). Therefore, innovation is perceived as a risky, uncertain, and difficult endeavour to establish and sustain (Anam et al., [2025](#)). Contrary to this culture, innovation is also considered imperative for educational quality, administrative efficiency, and solving social problems (Serdyukov, [2017](#)). These paradoxes create an environment where innovation is both desired and constrained institutionally. The current study presented empirical evidence for this complexity. The study emphasized that innovation is not a liner or one-time transformational activity, rather a continuous psychological and context specific phenomenon reflected through everyday behaviours of individual actors.

Innovation is focused on incremental improvement and adoption of new approaches in teaching, research, and administrative functions at individual and organizational levels driven by intrinsic motivation and desire for systemic change (Ellis et al., [2023](#)). However, several barriers, such as fear of failure, negative consequences, and power dynamics challenge this desire. This is compounded by institutional constraints, such as outdated routines, policy misalignment, and bureaucratic inertia (Ismail et al., [2025](#); Mehdi & Singh, [2023](#)). More importantly, the study highlighted that innovation in PSUs is contextually grounded rather than imposed externally. This idea reflects a desire for relevant, responsive, and institutionally aligned endeavours which cannot be recognized through innovation models of different socio-political contexts. With these observations, the study focused on bridging the gap between developed and developing contexts while actualizing structural and policy dimensions as well as psychological orientations that operate beneath socio-cultural realities of PSUs in Pakistan. Bridging this structural and behavioural gap is crucial for designing policy interventions to effectively promote innovation practices. Focusing on psychological dynamics, the study contributed to understand the phenomenon in terms of human-centered

activity embedded in institutional structures. Accordingly, this study emphasized to examine how psychological dynamics of individual actors operate in crafting sustainable innovation strategies while identifying key drivers and barriers, encouraging and constraining the phenomenon, respectively.

The study contributed to PSI in three ways. First, it aimed to shift the attention from structural and policy-oriented innovation to psychological and behavioural approaches. Second, the study focused on structural and psychological interaction rather than operating in isolated domains. Third, the study documented contextual identification of innovation by drawing evidence from PSUs in Pakistan while highlighting the predominant role of institutional realities and contextual factors in shaping innovation trajectories.

Drawing on empirical evidence from PSUs, the study explored how individuals perceive and engage with innovative behaviours shaped by institutional environment. Integration of psychological dynamics and organizational realities provide a realistic model of innovation in PSUs in Pakistan. While doing so, the study emphasized three aspects of phenomenon. First, it highlighted crucial role of individual characteristics in driving innovation. Secondly, it identified critical psychological drivers and barriers of innovation. Thirdly, it situated behavioural dynamics within broader institutional context, emphasizing the role of institutional culture and structures in channeling behavioural dynamics. Together, these aspects contribute to literature on innovation in PSOs while offering practical guidelines to create a supportive work environment. Accordingly, the study integrated theoretical, institutional, and psychological aspects of PSI on the canvas of PSUs.

Research Question

The current study aimed to answer the following research question: How do psychological drivers and barriers, along with institutional and contextual factors, shape the emergence, perception, and practice of innovation in PSUs of Pakistan?

Research Objectives

The study aimed to explore how psychological drivers and barriers interact with institutional factors to shape innovation trajectory of PSUs in Pakistan. Exploring, specifically, the drivers that facilitate individual

innovative behaviours, examining barriers that constrain innovation processes, analyzing institutional structures and governance mechanisms that shape innovation, the study aimed to develop a contextual understanding of PSI in higher education context of Pakistan.

Literature Review

Innovation has become a central concern in PSOs across the globe (Demir, [2022](#)). HEIs, particularly, PSUs are considered as a hub of innovation, creation, and its dissemination to the society (Polbitsyn, [2021](#)). Governments are facing increasing pressures from the market and society to improve efficiency, service delivery, and responsiveness towards societal demands. These pressures are more abundant in PSOs. This is because as compared to private sector, public sector operates under numerous pull and push forces, regulatory frameworks, rigid hierarchies, and complex environment of accountability mechanisms. This limits flexibility and experimentation (De Vries et al., [2016](#)). Resultantly, PSI is characterized as a constrained and context-specific phenomenon rather than a strategic or technological process. Studies indicate that PSI is not only defined through structural factors but also through behavioural and psychological dimensions (de Vries et al., [2018](#); González et al., [2026](#)). Innovative work behaviours play a crucial role in enhancing organizational effectiveness and institutional adaptability (Nassani et al., [2024](#)). In HEIs, innovation is particularly significant due to their dual responsibility of knowledge creation and service provision. Universities are expected to continuously enhance administrative efficiency, update teaching models, and research outcomes. Hence, innovative behaviour of individual actors contribute significantly to institutional development, knowledge creation, its exchange, and adaptation of learning processes (Afsar & Umrani, [2020](#); Nguyen & Malik, [2020](#)).

Studies indicate that psychological factors, such as intrinsic motivation, innovative work behaviors, and leadership support work as driving forces for innovation. Intrinsic motivation is aligned with internal desire of individuals to engage in organizational tasks for personal satisfaction, curiosity or accomplishment (Fishbach & Woolley, [2022](#)). Studies show that intrinsic motivation is the strongest indicator for innovative work behaviours, particularly in public sector context (Bawuro et al., [2019](#); Xu et al., [2022](#)). This self-driven internal desire encourages individual actors to explore new avenues, experimentation, and resilience in the face of

challenges. Empirical evidence demonstrates that intrinsic motivation drives innovative behaviour when facilitated by supportive leadership and organizational culture. Intrinsically motivated employees are more likely to engage in innovative thinking and creativity, particularly when they feel empowered and supported institutionally (Alshahrani et al., [2025](#); Kareska, [2024](#)). In public sector context, where financial incentives may be limited, intrinsic motivation becomes more prominent in fostering innovation. In HEIs, intrinsic motivation plays a crucial role in developing and implementing innovative behaviours of faculty members and administrators. This is often dictated by an internal desire for system improvement, problem solving, and enhancing academic excellence rather than external rewards (Al-Mansoori & Koç, [2019](#)).

Closely linked to intrinsic motivation is creativity, which is considered to be a strong factor for innovation. Creativity involves creation of novel ideas, whereas innovation refers to implementation of those ideas within organizational settings (West & Richter, [2024](#)). Evidence indicates that creative individuals are more likely to engage in innovative behaviours if they are provided autonomy and flexibility to experimentation (Slåtten et al., [2020](#); Swaroop & Dixit, [2018](#)). In higher education context, integration of technology for enhancing academic excellence is increasingly dependent on creativity of individual actors who may contribute by developing teaching strategies, involving in interdisciplinary research, and improving administrative processes (Aithal & Maiya, [2023](#); Bond et al., [2021](#); Choi-Lundberg et al., [2023](#)).

These innovative and creative behaviours are the outcomes of psychological experiences shaped by leadership. Considerable studies support that leadership styles and behaviours have significant impact on employee behaviour. Leadership behaviours that promote empowerment and allow open communication significantly influence innovation and creativity outcomes (Alblooshi et al., [2021](#); Yating et al., [2024](#)). Studies show that transformational leadership practices have been found to be positively associated with innovative behaviours and stimulate intrinsic motivation (Saeed et al., [2019](#)). In university settings, this leadership support is critically important because it fosters an environment of encouragement. However, leadership support alone is not sufficient to sustain innovation unless reinforced by organizational conditions and cultural values where experimentation is supported and accepted (Afsar &

Umrani, [2020](#); Ali et al., [2020](#); Li et al., [2018](#)).

While psychological drivers promote innovation, multiple barriers may also inhibit these behaviours. Among these barriers, fear of failure, psychological safety, resistance to change, and cognitive rigidity are dominant (Çetin, [2025](#); Mehdi & Singh, [2023](#)). Fear of failure arises when individuals perceive that experimentation failure may create negative and adverse consequences for their career growth, invite criticism, create bad impression, and damage to their reputation (Mehdi & Singh, [2023](#); Noskeau, Santos, & Wang, [2021](#)). Evidence indicates that fear creates an environment of risk aversion where individuals are less likely to employ experimentation with new ideas and challenge to existing routines (Oreg, Bartunek, Lee, & Do, [2018](#); Wake, Wormwood, & Satpute, [2020](#)). Particularly, in public sector context where accountability and performance management mechanisms appear to be more mechanical and stricter, the perceived risk associate with innovative experimentation is higher. This ultimately results in adopting cautious and risk-free behaviors which result in maintaining status quo. Psychological safety framework offers understanding of how fear of failure and risk perceptions influence innovation. Psychological safety frameworks maintain that individuals can express ideas, take risks, and make mistakes without inviting negative consequences (Rachmad, [2022](#)). Studies indicate that psychological safety framework has a positive impact on innovative behaviours by encouraging open communication, knowledge sharing, and experimentation without fear of judgment (Clark, [2020](#)). Contrary to this, low psychological safety environment leads towards silence, conformity with existing routines, and change resistance. Innovation often requires challenging existing routines and established practices. Therefore, psychological safety frameworks are particularly relevant in public sector context. If individuals perceive that their ideas may be rejected or punished, they would not engage in innovative behaviours despite having acknowledgement of its importance.

Aligned with fear of failure, other important barriers are resistance to change and cognitive rigidities. Resistance to change is often rooted in cognitive and psychological processes where any deviation from established practices and routines is perceived as disruptive or threatening (Kuzmanov, [2025](#)). Individuals working in such settings overtime develop rigid cognitive tendencies which limit their ability to accept new ideas. The phenomenon is more prevalent in public sector where sustainability,

continuity, and compliance are preferred over experimentation. These tendencies are further reinforced by organizational culture. In the context of PSUs, innovation is perceived both as essential and constrained. PSUs are expected to create knowledge, adopt advanced technologies, and contribute to societal development (Demircioglu & Audretsch, [2019](#); Polbitsyn, [2021](#)). However, at the same time, PSUs operate under bureaucratic systems that focus on standardization, compliance, and strict administrative and financial accountability (Kallio, Kallio, & Blomberg, [2020](#)). Though faculty members and administrators may have innovative tendencies, their intrinsic motivation and creative skills often remain constrained under the influence of organizational structures, policy frameworks, and resource constraints (Acar et al., [2019](#); Alenezi, [2021](#); García-Morales et al., [2021](#)). Resultantly, innovation in PSUs remains incremental, non-linear, contextual, and deeply rooted in everyday practices rather than a structural or policy change (Carayannis et al., [2018](#); Majeed, [2025](#)). Studies on PSI demonstrate that bureaucratic practices, policy frameworks, and rigid and hierarchical administrative structures act as significant innovation barriers (Attaloglou et al., [2026](#)).

These institutional and culturally rooted factors cause individual actors to pursue cautious, risk averse behaviors and discourage them to employ experimentation. Coupled with adoption of external innovative models without adapting them with contextual needs further exacerbates institutional ineffectiveness, resulting in uneven outcomes. A critical examination of existing literature reveals that psychological factors, such as motivation, creativity, leadership support, and psychological safety have been considerably recognized as determining factors in shaping innovative behaviour. Similarly, the literature demonstrates that institutional and structural dimensions, bureaucratic procedures, and policy frameworks also influence innovation outcomes. Both the streams of literature have been developed in parallel with limited focus on coalesced impact of psychological and structural influences in shaping innovation. Consequently, innovation remains isolated, fragmented, and inept in the context of Pakistan where behavioural, social, cultural, and regulatory frameworks coexist simultaneously.

Despite growing literature on PSI, several gaps remain unaddressed. The focus of existing studies is predominantly directed towards structural and policy dimensions with limited attention towards psychological and

behavioural factors that influence individual actions. Secondly, the innovation studies in PSUs are characterized with institutional performance and organizational outcomes rather than cognitive and behavioural processes of innovation emergence. Thirdly, limited studies have explored the interaction of psychological drivers and barriers with institutional conditions in shaping innovation in PSUs, particularly in a developing context, such as Pakistan. Finally, innovation is frequently treated as a strategic or managerial phenomenon, while its contextual, psychological, social, and behavioural dimensions remain underexplored. Addressing these dimensions is particularly important. This is because innovation in PSUs is not merely an outcome of structural and policy interventions rather it is a product of motivation, perceptions, fears, experiences, and organizational structures.

The foregoing discussion identifies that psychological factors shape individual determination and willingness to engage in innovative behaviors. Whereas, institutional realities and structural aspects create a feasible environment for innovation experimentation. The complexity of innovation in PSUs requires attention towards both individual and institutional factors. Neither psychological explanation alone accounts for complexities of structures, nor structures alone can explain individual behaviours. Accordingly, understanding innovation within PSUs necessitates multidimensional theoretical perspectives and explanatory lens to explain how and why innovation emerges, evolves, sustains, and constrains in PSUs. By addressing these gaps, this study extended the existing understanding of PSI beyond traditional structural and policy-driven explanations of innovation.

Theoretical Framework

Understanding innovation trajectory in PSUs requires a multi-level theoretical perspective capturing psychological and institutional aspects. Grounding in componential theory of creativity, psychological safety theory, institutional theory, and complexity theory, this study endeavored to integrate psychological and institutional aspects that create or hinder innovation. Though the primary focus of this study was to explore the psychological influences of individual actors, the study also incorporated institutional and contextual lens for understanding complex and paradoxical nature of innovation in public sector context.

The selection of multiple theory perspectives is guided by multi-dimensional nature of innovation in PSUs. As the literature provides, innovation is simultaneously a psychological, behavioural, contextual, and organizational phenomenon. Accordingly, no single theoretical perspective can adequately explain all dimensions of innovation processes. Accordingly, componential theory of creation explains motivational and creative dimensions of innovation. Psychological safety theory explains behavioural conditions of innovation. Institutional theory explains structural and governance dimensions of innovation. Whereas, complexity theory helps in understanding dynamic and adaptive innovation processes. Together, these theories offer a multi-dimensional and comprehensive framework capable of explaining innovation phenomenon in PSUs.

The componential theory of creativity provides primary foundation while explaining that innovation emerges from interaction of intrinsic motivation, relevant skills, and creative ability. Componential theory identifies that creativity requires interaction of four fundamental components. These include domain-relevant skills, creativity-relevant processes, intrinsic task motivation, and social environment (Amabile, [2013](#)). Among these components, intrinsic motivation is critical. This is because individuals having internal desire for motivation, resilience, and emotional intelligence are more likely to engage in innovative behaviours (Amoozegar et al., [2025](#)). In the context of PSUs, intrinsic motivation is demonstrated through input of administrative and academic staff in academic, research, and administrative domains. Innovation is considered to be driven internally rather than external push (Han, Abdrahim, Zakaria, & Ghazali, [2023](#)). This indicates that innovation is rooted in everyday practices and is closely associated with individual work engagement. Theory also posits that innovation emerges in supportive and collaborative environment where autonomy is extended and experimentation is allowed in pursuit of intellectual exploration (Amabile & Muller, [2024](#)). Universities being knowledge creation institutions provide opportunities for experimentation. However, the extent of actualization of creativity into desired outcomes depends on individual motivation level and institutional conditions.

While intrinsic motivation encourages individual engagement, its practical implementation is determined by perceived levels of psychological safety. Psychological safety theory posits that teams perform well when

individuals feel safer to employ interpersonal risks without the fear of punishment, humiliation, and marginalization (Rachmad, 2022). Clark (2020) breaks down psychological safety into four stages including inclusion safety, learner safety, contributor safety, and challenger safety. If institutional settings demonstrate higher levels of psychological safety, individuals can express innovative ideas, take risks, and engage in experimentation without the fear of negative consequences and damage to reputation or career. With higher levels of psychological safety perceptions, individuals feel empowered and confident and are more likely to engage in innovative behaviors, believing that their contributions would be rewarded (AlMunthiri, Bani Melhem, Mohd Shamsudin, & Al-Naqbi, [2024](#); Zhu, Yao, & Zhang, [2019](#)). On the other hand, low psychological safety levels create passive and risk averse behaviours where individuals hesitate to offer innovative ideas and conform to existing routines (Çetin, [2025](#)). In the context of PSUs, psychological safety perceptions are particularly important due to hierarchical structures, bureaucratic norms, and accountability mechanisms. Individuals may perceive innovation detrimental to their comfort zone, especially if it involves challenging existing power dynamics. Fear of failure, negative consequences, and damage to reputation and career can significantly compromise innovative behaviours. Hence, psychological safety theory provides a critical lens to investigate PSI trajectory marked with duality of constraints and motivation.

Institutional theory explains how organizational structures and norms influence innovation (Lammers et al., [2014](#)). PSOs operate under numerous regulatory, normative, and cultural influences that shape and reflect organizational behaviour in decision-making processes. The theory posits that institutions are social structures deeply embedded and influenced by coercive, normative, and mimetic pressures (DiMaggio & Powell, [1983](#)). Scott ([2014](#)) identifies institutions as social structures created through symbolic elements, social actions, and material assets. Matravers ([2007](#)) identifies institutions as socially-constructed arrangements consisting of norms, rules, and values that place individuals, objects, and procedures in a relationship. Often, these factors tend to create harmony, stability, and conformity to existing routines limiting the scope of innovation. Individual behaviour of employees is strongly influenced by institutional environment in which they operate (Banwo et al., [2022](#)). Moreover, institutional theory provides a strong perspective to understand trajectory of influences which

may be aligned with regulatory frameworks and normative expectations. PSUs also operate in highly bureaucratic, procedural, standardized policies, and regulatory environments. These institutional pressures and external influences discourage innovation and prefer compliance and stability, whereby individual actors prioritize adherence to established norms and processes in order to avoid potential risks associated with experimentation and failure (Kallio et al., [2020](#)). Focusing on isomorphic pressures, such as coercive, normative, and mimetic influences, institutional theory posits that universities being public entities may adopt certain regulatory, professional, and imitating practices based on external environment. This results in the adoption of innovation models inconsistent with institutional needs and capabilities.

Innovation in the context of PSUs may be understood as a complex and adaptive process. Complexity theory views organizations as dynamic systems of interaction of multiple actors (Turner & Baker, [2019](#)). Hence, from complexity theory perspective, innovation does not happen in a linear approach, rather it emerges as a result of iterative processes of learning, adaptation, feedback, and continuous interaction (Holland, [2014](#)). Within this framework, PSUs are complex and adaptive systems where different stakeholders, such as faculty, students, and administration interact within evolving institutional environment. Innovation in such an environment must be gradual, incremental, and a continuous adjustment of changing conditions. This suggests that innovation is a process of evolution rather than revolution. Complexity theory also highlights that each institution operates within a unique social, cultural, and organizational context where innovation emerges, evolves, and is shaped by interaction of leadership, employees, competitors, regulatory agencies, and other stakeholders (Johnson-Kanda & Yawson, [2018](#)). Resultantly, innovation can be understood in terms of institutional and contextual realities rather than a universal phenomenon. Studies identify innovation as a complex and adaptive phenomenon rather than a linear or planned endeavour. Complexity theory perceives organizations as dynamic systems interacting with multiple actors, feedback loops, and emergent outcomes. From this perspective, innovation is an outcome of iterative processes of experimentation, learning, and adaption.

Despite explaining different dimensions of innovation, all the theories are conceptually interconnected and complementary. Componential theory

elaborates individual capacity to innovate, whereas psychological safety theory explains conditions under which individual creativity translates into innovative behaviours. Similarly, if institutional theory explains organizational rules, norms, and structures, complexity theory offers understanding regarding continuous interaction of individual, institutional, and environmental realities. Hence, together, these theories offer a multi-dimensional and multi-level explanation of innovation which cannot be determined alone by individual or institutional level theories.

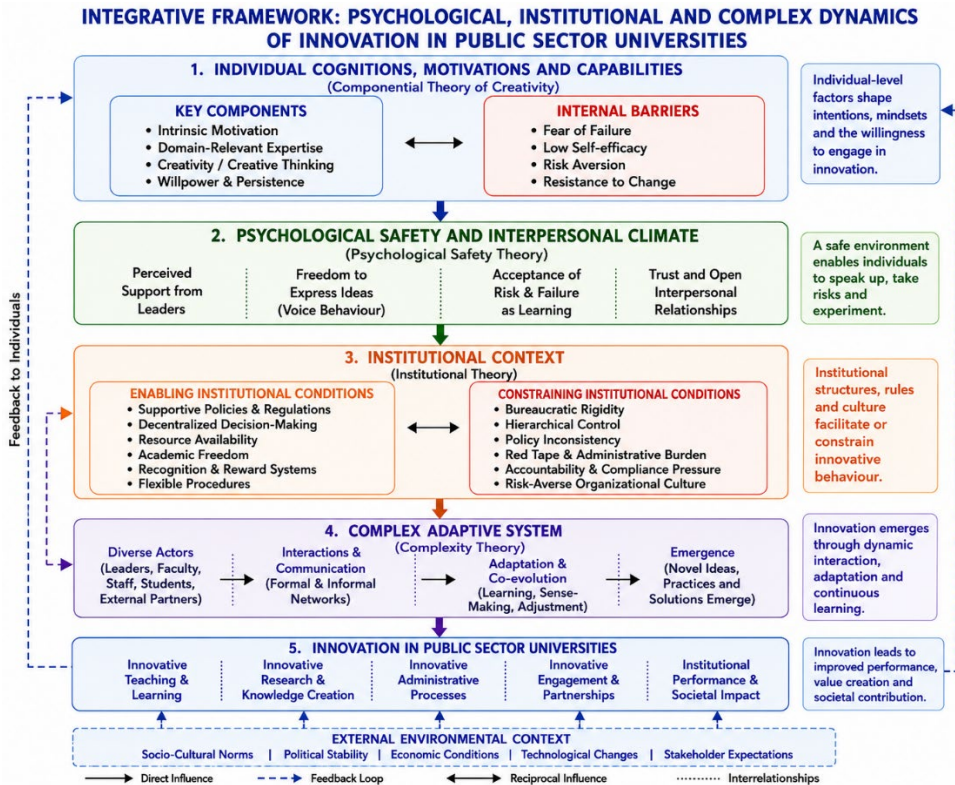
While the theories are complementary, they also offer important tensions. Psychological safety theory explains individual agency and creativity, whereas institutional theory explains structural constraints and institutional conformity. Similarly, complexity theory emphasizes adaptability and emergence, whereas institutional theory emphasizes stability. These tensions are significantly relevant to PSUs where innovation emerges as a result of complex interaction of individual actors and regulatory environment.

An integrated view of these theoretical lenses helps the study conceptualize that innovation in PSUs emerges from interaction of psychological drivers, barriers, and institutional context. From the perspective of componential theory of creativity, intrinsic motivation and creativity shape individual innovative behaviours. From the perspective of psychological safety theory, fear of failure, negative consequences, and risk perceptions inhibit innovative behaviours. Institutional theory provides that institutional structures and norms play a crucial role in shaping innovative behaviors. Whereas, according to complexity theory, innovation emerges gradually and adaptively out of dynamic processes. Collectively, these theoretical perspectives provide an integrated framework to understand innovation as a behavioural and contextual phenomenon rather than merely a technical or policy-driven activity. Highlighting interplay between motivation, fear, risk aversion, adaptive, and institutional constraints, the theoretical framework extends our understanding of innovation in PSUs. This multi-theoretical perspective added value to this study by bridging behavioural and institutional dimensions of innovation. Existing studies emphasize either on individual-level or policy-level influences. The present framework aimed to integrate these perspectives and offered a unique, multi-dimensional, and contextual foundation in order to interpret empirical findings of the study. Figure 1 represents integrative framework of selected

theoretical framework.

Figure 1

Integrative Theoretical Framework



Methodology

Research Approach

This study employed a qualitative research methodology. A qualitative approach is particularly important for getting in-depth insights and understanding of a phenomenon based on perceptions, experiences, and interactions of individuals (Creswell & Creswell, 2023).

Research Design

The study followed an embedded case study approach where the higher education sector in Punjab, Pakistan constituted the case. The study employed qualitative interpretivist research methodology to explore senior

leadership perspective about psychological enablers and barriers. Given the nature of research question, a qualitative case study approach was considered most appropriate to understand the experiences of participants. Case study approach is extensively employed in qualitative studies due to its ability to explore rich, contextual, and complex social phenomenon (Yin, [2016](#), [2018](#)).

Population and Sampling

For this study, the target population comprised senior administrative leadership of PSUs which included, Vice Chancellors, Pro-Vice Chancellors, Registrars, Controller of Examinations, and Treasurers. These officers were engaged in key decision-making on administrative, financial, and examination aspects of university governance. Following cross-sectional data collection technique, the data was collected from 19 PSUs in Punjab, Pakistan. Total 42 interviews were conducted and the saturation point started emerging after thirty-two interviews. No further insights emerged after 39 interviews, and remaining 3 interviews were conducted to confirm the saturation of data. Out of total 42 interviews, 32 interviews were audio recorded with the permission of participants and for participants who did not permit recording, field notes were maintained and incorporated into analytical process. Hence, 42 interviews contributed for the development of codes, themes, and findings. The studies show that for qualitative studies involving senior leadership, a sample size of 30 to 35 provides rich data hence, saturation point is achieved (Mason, [2010](#)). This sample size closely aligns with the benchmarking of qualitative studies.

Inclusion and Exclusion Criteria

The universities were selected and divided into three major cohorts on the basis of their structural similarities ensuring representation of varying organizational arrangements. A purposive sampling strategy was employed and individual participants who have completed at least one tenure in their respective position were interviewed, and not more than three interviews were conducted from one university. These participants were selected due to their extensive and strategic experience in leadership positions, enabling them to provide accurate and well-informed perspective.

Data Collection

Data was collected through semi-structured interviews which are widely accepted in qualitative studies. Additionally, data was also collected from

official documents, government business rules, Acts and ordinances of respective universities, and websites of different regulatory bodies, such as HEC, PHEC, and HED. Data was collected in five phases starting from pilot stage to final stage. In the first phase, five interviews were conducted to construct interview guide. However, the data of these interviews was not included in the final analysis as the purpose of this phase was to prepare interview guide. In the second stage, 10 interviews were conducted with focus on thematic analysis. In the third stage, 15 interviews were conducted focusing on strategic depth. In the fourth stage, 14 interviews were conducted with focus on critical reflection. Finally, in the fifth stage, 3 interviews were conducted focusing on saturation confirmation. The sequence of stages is consistent with qualitative research strategies as suggested by Creswell (2018) and Tisdell et al. (2025).

Data Analysis

About thirty-two interviews were recorded and transcribed using NVivo software. Field notes from other non-recorded 10 interviews were incorporated in the analysis process. Data analysis followed thematic analysis process as suggested by Braun and Clarke (2021). Data was analyzed using NVivo software. The use of NVivo allowed primary and secondary coding. Initial coding was conducted using NVivo and then similar codes were converted into categories, which were subsequently refined into broader themes as illustrated by Miles et al. (2020). Throughout the process, the codes were continuously reviewed, compared, and refined in order to ensure conceptual consistency and analytical rigor. The final themes represented recurring patterns of innovation enablers, barriers, psychological factors, and institutional realities.

Reliability and Validity

To ensure trustworthiness and rigor of study, different techniques, such as member validation and triangulation were employed (Lincoln & Guba, 1985). Dependability was supported through systematic collection of data and documents. Confirmability was ensured through audit trail of documents. Transferability was ensured through detailed contextual information. The inclusion of direct quotes from participants provided authenticity and confirmed responses, allowing alignment of data and interpretation.

Ethical Considerations

From ethical perspective, prior approval of participants was obtained and they were allowed to quit the process at any stage. Interview questions were designed in a neutral and plain language while following a non-judgmental approach during interviews. All ethical standards and protocols of university research were followed including institutional approval of topic. By following ethical standards, anonymity of participants, data security, and no reference to any participant, the integrity and credibility of study was ensured.

Results

Total 42 interviews were conducted from senior administrative leadership. To ensure anonymity of participants, each participant was assigned a unique code and any reference to any participant in the study was based on that code. Table 1 explains the demographic characteristics of participants.

Table 1

Demographic Characteristics of Participants

Characteristics	Participants	<i>f</i>
Gender	Male	36
	Female	06
Qualification	Ph. D	29
	M. Phil	06
	Masters	07
Age	40-45	02
	46-50	06
	51-55	12
	56-60	14
	Above 60	08
Professional Experience (Years)	15-20	03
	21-25	07
	26-30	23
	Above 30	09
Tenure of Position	1 st	26
	2 nd	12
	3 rd	04

Characteristics	Participants	<i>f</i>
Administrative Position	Vice Chancellor	17
	Pro-Vice Chancellor	07
	Registrar	10
	Controller of Examination	04
	Treasure	04

Table 1 indicates the participant profiles which reflect demographic realities of senior leadership positions where male population remain dominant. It reflects strategic insights which may influence the innovation perspective from gender perspectives. Demographic table indicates that participants occupied senior leadership positions and possessed substantial administrative and academic experiences. The majority of participants held doctorates and had an extensive experience towards institutional decision-making processes. Consequently, the participants' opinions reflected that the individuals' perspectives directly involved policymaking and its implementation in PSUs. This profile enhances the credibility of the findings, suggesting that participants had relevant experiences of organizational realities and institutional processes.

Understanding and Conceptualization of Innovation

The findings indicated that innovation in PSUs is perceived as a multidimensional, contextual, and psychologically-driven phenomenon shaped by individual motivation, behavioural constraints, and institutional realities. Participants perceive innovation not as a linear and uniform process but as a continuously evolving phenomenon embedded in everyday practices. Findings revealed innovation phenomenon at three levels, which included conceptualization, drivers, and constraints. Participants viewed that innovation is introduction of any new idea aimed at solving everyday problems. A participant responded that, "innovation is anything new which you introduce in your everyday activities." (P1). However, at the same time, participants distinguished between mere novelty and meaningful innovation. One participant stated, "every new thing is not an innovation, but every innovation is definitely a new thing" (P9). Participants also believed that innovation is a process of continuous improvement rather than one time activity, which is hindered by routine practices and rigid systems. A participant explained, "innovation is a continuous process, but if you continue offering same routine practices, it will not be helpful" (P12).

Participants perceived innovation as a gradual and adaptive phenomenon rather than a radical and revolutionary change. Particularly, in the context of PSUs, innovation can remain sustainable and feasible if it is aligned with institutional realities. A participant stated, “any change should be incremental, not revolutionary and it should not happen overnight.” (P11).

Psychological Drivers and Barriers of Innovation

Participants believed that innovation in the context of PSUs is driven by certain psychological traits. Moreover, it also gets hindered by some psychological constraints. Innovation is a process driven by individual motivation, internal desire, and personal commitment to improve existing systems and solve everyday problems. However, this determination is strongly linked with personal passion and persistent determination. For example, a participant stated, “Innovation is a personal trait and requires passion, determination and strong will” (P16). Another participant stated, “if you have strong intention, avenues will start coming from you. You must have intention and will to improve” (P34). These views indicate that innovation is a phenomenon often driven psychologically by individual mindset and commitment rather than driven externally. However, these personal commitments are absolutely autonomous, rather compromised, and even inhibited through multiple constraints and barriers. These may include fear of failure, risk-averse culture, power dynamics, and their potential negative consequences. Participants perceived that risks are associated with innovative endeavours, particularly in terms of career growth and advancement. For instance, a participant expressed, “if we do this, our careers will be at stake and innovation may stop midway”(P14). This fear contributes towards a risk-averse environment, and individuals remain reluctant in experimenting new ideas. This culture of fear and risk-aversion is further constrained when accompanied by subtle institutional power structures. The fear of losing authority and power over others also compel individual agents. A participant stated, “leadership hesitates to adopt new ideas due to fear of losing power and authority” (P41).

Institutional Constraints and Contextual Realities

The findings suggest that innovation is strongly influenced by organizational politics and power relations which discourage change and creativity. A participant stated, “The administrator has to look at all these constraints in front of them and think, 'What is the way for me? How can I

tackle this?” (P1). Another participant stated, “It’s because of workplace politics and similar things. People avoid doing such things because they’re afraid it might backfire on them tomorrow” (P12). Moreover, another psychological barrier emerging consistently is the prolonged cognitive process of aligning with rigid and bureaucratic systems. A participant stated, “we are taught to cope with status quo. And perhaps this is comfortable for many” (P11). People generally assimilate themselves with system and are not open to creative thinking and innovation. A participant stated, “they think, 'If we do this, then our career might be at stake” (P-10). Another participant stated, “it is like a threat in the minds... a fear” (P17). Such tendencies indicate a form of cognitive behavioural inertia that limits innovation. These cognitive behaviours are further reinforced by bureaucratic procedures, outdated systems, and policy misalignment. Outdated structures and misalignment create an environment that discourages experimentation while reinforcing routine practices. A participant stated, “A new university started in 2021, but its structure is the same as that os 2002’s” (P10).

Overall, the findings indicated that innovation in PSUs is a broad, adaptive, and contextual phenomenon. This phenomenon is driven by intrinsic motivation, individual commitment, and constrained by fear of failure, authority concerns, and resistance to change. It is perceived not as a linear or technical process rather, as a behavioural outcome and contextual phenomenon of interaction among individual actors. This highlights the complexity of innovation in PSUs, where psychological and institutional factors jointly shape innovation trajectories. Collectively, these findings illustrated that innovation in PSUs is a product of interaction of psychological drivers, barriers, and institutional realities. On one side, innovative behavior encourages passion and creativity. However, on the other side, fear of failure, bureaucratic and rigid structures, and policy constraints frequently discourage its expression. The findings, therefore, illustrated a direct relationship with research question.

Table 2 presents a summary of themes and sub-themes that emerged from the data. Figure 2 represents the final integrated model of innovation in PSUs.

Table 2*Summary of Themes and Sub-themes*

Themes	Sub-themes
Understanding Innovation	Novelty, Adaptation, Continuous Improvement
Psychological Drivers	Intrinsic Motivation, Passion, Willpower, Leadership Support
Psychological Barriers	Fear of Failure, Authority Concerns, Career Risks
Institutional Constraints	Bureaucratic Rigidity, Policy Misalignment, Administrative Procedures

Figure 2*Integrated Model of Innovation in PSUs***Discussion**

The study provided a nuanced understanding of innovation in the context of PSUs by highlighting subtle differences and interaction of psychological barriers, constraints, and drivers. It is evident that innovation is not a structural phenomenon rather a cognitive response dependent on personal and institutional realities. By integrating componential theory, psychological safety theory, institutional theory, and complexity theory,

this study offered a comprehensive trajectory of innovation in PSUs. Intrinsic motivation, willpower, and passion are central to driving innovation in the light of componential theory of creativity. Consistent emphasis on innovation, emerging from personal desires rather than external incentives, indicates that innovation is a cognitive process where intrinsically motivated individuals are more likely to engage in innovative activities, exploratory thinking, and experimentation with new ideas. In the context of PSUs, where intellectual engagement and knowledge creation are the primary activities, individual motivation plays a crucial role in shaping innovation. The findings confirmed literature on innovation. This demonstrated that innovation in highly-regulated and structurally-rigid environments can emerge organically if individual willingness and desire for creativity exist (Afsar & Umrani, [2020](#); Srirahayu et al., [2023](#)). Furthermore, innovation is embedded in everyday practices. This reflects that innovation is a continuous and micro-level process rather than a one-time activity or large-scale transformation. This reflects that individuals tend to engage in incremental, adaptive, and small-scale innovation which appears meaningful.

The significance of these findings moves beyond confirming the importance of motivation and creativity. Evidence illustrates that innovation in PSUs is primarily a behavioural phenomenon rather than a structural or policy-driven endeavor. Innovation in PSUs emerges when individual actors are able to navigate and influence institutional environment. This indicates a paradigm shift from traditional innovation approach of policy-driven interventions to a dynamic and interactional approach of innovation.

Psychologically, intrinsic motivation drives innovation urge. However, certain barriers, such as fear of failure and perceived career risk simultaneously hinder innovation and appear to be the most prominent factors. These barriers premise on the fact that unsuccessful endeavours would bring negative consequences on their professional career, which may result in hesitation to take risk, leading towards risk-averse behaviors. These findings are in consonance with premise of psychological safety theory which posits that individuals tend to engage in risk-taking behaviors if they perceive failure as a learning point rather than a negative consequence (Edmondson & Bransby, [2023](#)). Lack of psychological safety results in avoiding experimentation, and adherence to established norms and

practices. These findings indicate that PSUs often lack psychological protective environment, which may limit innovation endeavors despite the presence of innovation desire. Related to absence of psychologically-safe environment are the concerns for authority and power dynamics. Individuals perceive innovation as a threat to authority and control. This reflects that personal and institutional dynamics actually shape innovative behaviors. These consequences present innovation as a social and political phenomenon which is processed cognitively. In this way, the current study strengthened the psychological safety literature. This depicts that individual perceptions and organizational structures shape innovative behaviors in reality.

The predominance of fear of failure and authority concerns can be explained through hierarchical structures of PSUs. In environments where authority is highly centralized and structures are rigid, individuals may perceive any innovative experimentation risky. This is because failure can attract accountability risks rather than accepting it as an experimentation learning. Consequently, innovative behaviors become associated with safety perceptions and dependent on prior institutional support. This may result in innovation, which could be incremental and fragmented rather than transformational.

The influence of institutional structures, bureaucratic procedures, outdated policies, and regulatory frameworks also work as constraints that limit flexibility and discourage experimentation. As explained by institutional theory, these barriers operate as a shaping force for organizational behaviors through regulatory, normative, and cognitive forces. In PSUs, these institutional pressures promote compliance and stability over innovation and potential risks associated with experimentation failure which is perceived as deviation. These elements create an environment of institutional legitimacy where individuals tend to adhere to compliance-oriented behavior, where innovation is reduced to secondary position. The presence of mimetic behaviors where PSUs tend to adopt external innovation models, without adequately considering their contextual relevancy, reflects institutional inability to entrepreneurship. Despite a strong desire for contextual innovation and indigenous solutions, the continuity of these pressures depicts that PSUs lack behavioral courage and prefer institutional conformity rather than pursuing creative practices.

An important tension that emerges from findings suggests that PSUs

simultaneously encourage innovation, discourage experimentation, and focus on procedural conformity. Despite its recognition as an essential element, innovation is perceived as a risky and fearful phenomenon due to bureaucratic structure and accountability mechanisms. These paradoxical positions indicate that innovation challenges in PSUs do not necessarily arise from lack of individual capacity or willingness but due to discouraging institutional environment.

The findings also suggest that innovation in PSUs tends to be adaptive and gradual rather than a linear or planned activity. Incremental change, continuous improvement, and contextual adaptation reflect the principles of complexity theory. The complexity theory posits that institutions are dynamic and adaptive systems where innovation emerges as a result of interactions, feedback loops, and evolving situations (DiMaggio & Powell, 1983). Hence, innovation in PSUs is shaped through multiple interacting forces. These include individual motivation, institutional constraints, and environmental forces. This complexity explains that PSI is an unpredictable and uneven phenomenon that emerges through bottom-up approaches and contextual trajectories rather than top-down strategy.

The findings of this study contributed towards psychological, contextual, and cultural dimensions of innovation in PSUs which are rarely addressed in the mainstream literature where the emphasis is placed on more of technical aspects or operational realities. The cognitive process, the cultural forces, and contextual pressures which actually determine the trajectory and direction of innovation remain unattended. The strong rejection of blindly adopting external innovation models and desire for contextual creativity emphasizes the importance of cognitive and behavioral aspects of PSI which is culturally-embedded in developing context of global south. These aspects broaden the definition of innovation beyond technological interventions and advancements and include cognitive, social, and cultural relevance. Hence, the findings of the study contributed towards the existing PSI literature through exploring cultural and social aspects of innovation.

In countries, such as Pakistan where contextual factors, cultural norms, and institutional capacities influence innovative behaviors, innovation desire requires fundamental shift towards context-specific, locally grounded, and responsive innovation models rather than imported models. This perspective aligns with recognition that innovation is socially

embedded and is shaped by local realities (Pinto et al., [2021](#)). Hence, innovation in the context of PSUs is not a linear and onetime event, rather it is an ongoing and continuous process shaped by organizational conditions and interaction of organizational actors.

The findings carry important implications for policy and practice. To promote innovation in PSUs, it necessitates the creation of a culture and environment supportive towards providing psychological safety, encouraging risk taking, and minimizing the fear of experimentation failure consequences. Additionally, PSUs are required to embed institutional policies and reforms within behavioral shifts and reduce bureaucratic rigidity while enhancing institutional flexibility.

Conclusion

This study explored the psychological drivers and barriers in shaping innovation in PSUs. The findings demonstrated that innovation in PSUs is a complex and contextual phenomenon that is determined as a result of interaction among cognitive processes, individual behaviors, and institutional realities. The findings strongly confirmed that PSI is increasingly dependent on intrinsic motivation and creative behaviors. However, fear of failure, authority concerns, and power politics limit its actualization. By integrating psychological and institutional perspectives, the study provided a contextual understanding of innovation as a behavioral and cognitive phenomenon rather than technological interventions as the mainstream literature on innovation determines. The study concluded that innovation in PSUs can be understood in terms of evolving and continuous phenomenon, deeply rooted in everyday practices, administrative norms, and organizational culture. The central driving force for innovation in PSUs is individual motivation, creativity, passion, and individual willpower. These psychological factors enable individual agents to engage in innovative practices which are restricted with some other psychological barriers, such as fear of failure, career risk, and authority concerns. The restraining factors create an environment of risk-averse behaviors where experimentation is discouraged and conformity is sustained. The study also explored that innovation in PSUs is shaped through institutional and contextual realities including bureaucratic norms, outdated structures, and misalignment of policies with institutional needs. These realities create compliance-oriented work behaviors, limit flexibility, and reduce adaptive processes. The findings also concluded that innovation in PSUs must be

aligned with contextual realities and indigenous solutions rather than imported models. Overall, it can be concluded that innovation in PSUs emerges from a dynamic interplay of psychological barriers, behavioral constraints, and contextual realities. This demonstrates that innovation is an integrated and human-centered phenomenon rather than a technological solution.

Theoretical Contributions

The study contributed to innovation scholarship in several ways. Theoretically, the findings integrated psychological and institutional perspectives while providing a comprehensive understanding of innovation in PSUs. Contrary to existing literature on structural and policy dimensions, this study focused on psychological factors that shape the innovative behaviours. It extended the componential theory of creativity by suggesting that within highly bureaucratic structures and hierarchies, intrinsic motivation remains a critical source of innovation. Furthermore, the study extended the psychological safety theory by suggesting that in hierarchical structures, fear of failure and authority concerns dominate innovation endeavours. Additionally, it extended the institutional theory by demonstrating that organizational structures shape the individual behaviors. Furthermore, institutional pressures not only constrain innovation but also shape psychological perceptions of individual actors. Finally, the study contributed to complexity theory by suggesting that innovation in PSUs emerges out of close interaction among individuals, organizational structures, and contextual realities. Although, the study was situated in Pakistan, it offered broader global relevance, particularly with the cultures characterized by rigid structures, bureaucratic hierarchies, centralized decision-making mechanisms, and constrained human and financial resources.

Practical Implications

The findings have important implications for policymakers and university leadership. It necessitates a need to create an environment of psychological safety, strengthening motivation, addressing cultural constraints, and strategizing innovation in terms of contextual realities grounded in local context. In this regard, the study proposed the following measures:

- Establishing an environment where individuals feel confident to

propose new ideas, experiment with solutions, and learn from failure without the fear of negative consequences.

- Leadership can play a crucial role in this regard by encouraging openness, trust, and supportive communication.
- Efforts should be made to strengthen intrinsic motivation and creativity by providing opportunities for autonomy, recognition, and professional development.
- Leadership must promote and encourage a culture of continuous improvement and problem-solving within everyday practices.
- The institutional reforms to address structural constraints, such as bureaucratic procedures, outdated policies, and rigid administrative systems must be established.
- Institutional frameworks must be aligned with evolving needs of universities and must promote flexibility and endurability.
- Innovation strategies should be context-specific and locally grounded, reflecting the unique socio-cultural and institutional realities of PSUs.
- Rather than adopting external models without adaptation, universities should focus on developing indigenous solutions that address local challenges and stakeholder needs.

The practical implications directly emerge from empirical findings. The participants repeatedly identified fear of failure, authority concerns, bureaucratic structures, and policy mechanisms as major barriers. Similarly, participants identified intrinsic motivation and leadership support as key success factors for innovation. Consequently, the recommendations encouraging psychological safety concerns and reducing administrative barriers along with institutional environment must be focused.

Limitations

Despite its unique contributions, the study has a few limitations. First of all, the study was based on qualitative data, which limits the generalizability of the findings. The data was collected from different universities having varying specializations and geographical expansion. However, the findings were context specific to Pakistani culture, which may not be true in some other contexts and therefore should be interpreted accordingly. Secondly,

the data was collected only from senior leadership. Moreover, it also lacked the perceptions of middle management and faculty members who were actually involved in innovation processes. Finally, the reliance on self-reported data may introduce potential biases as the participants might have presented socially desired responses or prefer certain types of innovation above others.

Directions for Future Research

Future studies, while building on the findings of this study, may adopt a quantitative or mixed-model approach to test and validate the association between psychological drivers and barriers identified in this study. This strategy can enhance generalizability of study along with deeper insights into causal relationships. Secondly, the phenomenon can be explored and tested from the perspective of middle management and faculty members. This would provide an elaborative understanding of innovation phenomenon across different organizational levels. Furthermore, a comparative research design may also be employed to compare the phenomenon in private and public sector context. Finally, there is a need to explore the role of leadership styles, organizational culture, and team dynamics in shaping drivers and barriers.

Author Contribution

Abdul Quyyam: conceptualization, data curation, analysis, methodology, software, investigation, validation, visualization, writing original draft. Amani Moazzam: supervision, writing, review & editing

Conflict of Interest

The authors of the manuscript have no financial or non-financial conflict of interest in the subject matter or materials discussed in this manuscript.

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