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ORGANIZATIONAL CULTURE AND EMPLOYEES' INNOVATIVE BEHAVIOR: THE MEDIATING ROLE OF EMPLOYEE EMPOWERMENT

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Abstract

*This paper is aimed at examining the effect of organizational culture on innovative behaviour among employees in the private sector banks within Sindh Province in Pakistan and the effects mediated by employee empowerment. In the current competitive banking world, innovation is essential to the performance of organizations, quality of their services, and long term growth. Although earlier studies have recognized the significance of organizational culture and empowerment in terms of facilitating innovation, few studies have investigated these associations in developing nations, especially in the banking industry in Pakistan. This research paper fills this gap by incorporating theoretical views of Social Exchange Theory, Componential Theory of Creativity, Contingency Theory, Psychological Empowerment Theory and Self-Determination Theory and presents a holistic explanation to the way the organizational culture affects employee innovation. The research is quantitative in nature and cross-sectional research design. The target population will include all employees of bank in the private sector within Sindh Province. Convenience sampling was embraced due to resource and accessibility limitation. The minimum sample size was estimated at 132 using G*Power software, but to have a strong statistical analysis 500 survey questionnaires were sent, which produced 412 valid answers, which corresponds to response rate of 82.4. The survey tool was created with reference to the existing literature and was pilot tested in order to be reliable and understandable. It assessed five dimensions of organizational culture, which include management style, cooperation, adaptability, reward system, and formalization, employee empowerment, and the innovative behavior of employees in a five-point Likert scale. Partial Least Squares Structural Equation Modeling (PLS-SEM) was used in data analysis. The model of measures proved to be highly reliable and convergent with all the Cronbach alpha values, as well as the AVE values, greater than 0.70 and 0.50 respectively. Both the Fornell-Larcker criterion and Heterotrait-Monotrait (HTMT) ratio were used to determine the discriminant validity. The structural model indicated that the positive direct impact of all the five dimensions of organizational culture on the innovative behavior of employees is positive and significant and the employees are*

empowered which moderates four out of five dimensions. It is important to note that reward system directly impacted but was not mediated by empowerment which means that extrinsic rewards impact innovation without any intervention of empowerment processes. Indicators of model fit were good explanatory and predictive (R 2 = 0.746, SRMR = 0.088, NFI = 0.942) and PLS Predict analysis validated the predictive applicability of the model to the innovative behavior of employees. The results mention the importance of organizational culture and empowerment in increasing innovative behavior within banking organizations. The style of management, collaboration, flexibility and formalization directly and indirectly affect innovation, through enabling employees, focusing on their autonomy, competency, meaning and impact. The reward system encourages innovation in itself, implying that extrinsic rewards operate in conjunction with empowerment mechanisms. The implications of these results are huge in terms of theory as they further extend the literature of organizational culture, employee empowerment and innovation within a developing country setting. In practice, the research offers recommendations to the managers of banks to develop cultural and human resource practices that encourage empowerment, teamwork, flexibility, and flexible structures to establish an innovative culture. Finally, the paper has highlighted the fact that organizational culture is a complex determinant of the innovative behavior of employees and that employee empowerment is one of the most important ways of converting the cultural practices into innovative results. Through the strategic combination of leadership practices, collaborative norms, flexible structures, and motivational systems, the banks of the private sector will be able to increase their innovative potential and competitiveness in a fast-paced financial environment.

Introduction:

High competition and the high rate of change are typical of the modern business environment, and organizations are turning to innovation as one of the ways of ensuring that their growth continues, their performance improves, and they achieve long-term success. Research and development departments no longer have innovation, but rather it is a component of the daily behaviors and practices of employees at all levels within the organization. The innovative behavior of employees including the creation, propagation and actualization of new ideas has proved to be a vital driver of organizational performance, service quality, and competitive advantage.. In a world where technology is disrupting the boundaries of all industries, a culture that encourages and maintains innovative behavior among employees has not only become desirable but also a strategic necessity to organizations that want to stay relevant in a fast changing world.

In recent years, there has been an increase in scholarly interest in the antecedents of employee innovative behavior. Studies have always shown that individual level innovation is a multifaceted process that is influenced by a combination of personal, relational and organizational processes. Among personal factors, human capital encompassing knowledge, skills, experience, and competencies plays a pivotal role.. Ababneh (2024) emphasizes that human capital may facilitate innovative behavior by the attitudinal processes of employee engagement and mental involvement, whereby when employees are intellectually engaged in their work, they are much more likely to produce and advocate new ideas. This observation highlights the fact that the innovative behavior is not a spontaneous event but is well entrenched in the degree of

engagement and cognitive stimulation of the employees in the organizational setting.

The service sector and the banking sector in particular require innovation especially because the institutions have to constantly deal with changes in technology, changing customer needs, changes in regulation and increasing competition. In order to be relevant and competitive, banks always have to redesign processes, create new products and services, and improve the processes of service delivery. This imperative has been enhanced by the digital revolution that is sweeping across the banking sector globally. According to Bindel Sibassaha et al. (2025), the impact of digital transformation on employee innovative behavior is significant, and the support of organizational culture and transformational leadership style are vital in directing the positive impact of digitalization into the innovative behavior of employees. This implies that the environment within which employees work mediates the degree to which the larger environmental changes are converted into significant innovative results on the ground.

Employee-level innovation is turning into a strategic need in the emerging economies, such as Pakistan, where the banking sector has been undergoing a colossal transformation in recent years with privatization, digitalization, and restructuring of the regulatory framework. The environment in which the private sector banks in provinces like Sindh are operating requires agility, creativity and responsiveness attributes that can only be developed when the internal organizational environment is proactive in encouraging and rewarding innovative thinking at all levels of the workforce. Organizational culture has generally been identified as one of the most significant contextual factors that influence the attitudes of employees, their behavior and the result of their performance. It is a mirror of the shared values, beliefs, norms and practices that shape the way work is performed and how people associate in the organization. Innovation will flourish in an environment of creativity, risk-taking, collaboration, and learning, which can be proactively encouraged by an empowering and supportive culture. On the other hand, strict, top-down, and control-based cultures can stifle employee initiative and dishearten innovative conduct. This perception is supported by the research conducted by Suzana et al. (2024) on cooperative organizations, which showed that organizational culture, in addition to transformational leadership, has a direct and significant effect on the innovative work behavior of employees and, by extension, on the overall organizational performance.

Additionally, to this view, Khuan et al. (2024) investigated how leadership, organizational culture, and career development influence the quality of employees in the creative industry of Indonesia and found that a favorable organizational culture can greatly enhance the ability of employees to be creative and innovative. This cross-national data supports the universality of organizational culture as a source of innovative behavior, but also confirms that its impacts will be different in various ways based on the particular cultural dimensions that are prioritized in a particular organization. The dimensions of management style, the level of formalization, the reward system, the spirit of cooperation, and the adaptive capacity of the organization have different implications to the extent to which employees feel free and confident to behave innovatively.

Employee empowerment is a vital psychological and structural process by which organizational culture affects the performance of employees. Empowerment involves providing employees with independence, authority, access to information and significant opportunities to be involved in decision-making. Empowered employees will tend to gain a sense of ownership, competence, and influence psychological conditions that significantly enhance their motivation to pursue proactive and innovative behaviours.. Empowerment in the banking sector has been demonstrated to significantly enhance service innovation and customer responsiveness in frontline staffs in customer service settings and operational efficiency (Chandel et al., 2025). When employees believe that they have a voice, that their input is appreciated and that they have the freedom to pursue their ideas, they are much

more inclined to devote cognitive and emotional resources to coming up with creative resolutions to organizational problems.

Although there has been an increasing literature on organizational culture, employee empowerment and innovation, there is a significant dearth in empirical studies that explore the mediating role of employee empowerment in the relationship between organizational culture and employee innovative behavior especially in the context of the provincial environment of the banks of the private sector in Pakistan. The majority of the current studies have been conducted on these constructs either separately or in a cultural and organizational context that is very different to the actual situation of the banking sector in Pakistan. This gap is a theoretical gap as well as a practical issue because innovation is a strategic issue to the sustainability of Pakistani banking institutions.

The study will fill this gap by examining the contribution of the particular dimensions of organizational culture such as management style, cooperation, adaptability, reward system, and formalization to the development of the innovative behavior of employees mediated by the employee empowerment.. In this way, it aims to produce empirically based insights that can guide theory and managerial practice in the case of private sector banks in Sindh Province, Pakistan.

1.2 Organizational culture: Concept and definitions

Organizational culture is a complex and dynamic concept that has drawn a lot of academic interest in different fields of study like management, psychology, sociology and organizational behavior. It is the collective programming of the mind that makes the difference between one organization and another and the way members think, feel and act within their organizational environment. According to Schein (2010), organizational culture refers to a pattern of common basic assumptions acquired by a group in its solving its external adaptation and internal integration problems, and which has proven to be effective enough to be taught to new members as the correct way to perceive, think and feel about the problems. This definition emphasizes how culture is deep and assumed to be so in determining the behavior of an organization.

The conceptualization of organizational culture by Hofstede (2001) is the collective mental programming of the members of an organization that focuses on shared values and practice that shape behavior within the workplace. Denison (1990) similarly regards organizational culture as a system of beliefs and values that determine the effectiveness of an organization by affecting the behaviour, motivation and performance of employees.Practically, there are both visible and invisible aspects of organizational culture, including organizational symbols, rituals, language, policies, and procedures, and organizational values, assumptions, norms, and expectations. All these cultural aspects form an organizational climate that either supports or limits the behavior of employees and the organizational performance.

Literature Review:

Organizational culture is a very important contextual element that determines how the employees see their job, the way they relate with others, their reaction to problems and how they solve problems creatively. Previous studies indicate that certain cultural dimensions, including management approach, collaboration, flexibility, reward, and formalization, exhibit varying impacts on employee attitudes and behaviors, including innovation. In addition, employee empowerment has come to be more and more identified as an important psychological and structural process in which organizational culture impacts on employee outcomes.The chapter is arranged in the following way: First, the dimensions of the organization culture are discussed. This is preceded by a literature review on the relationship that exists between each cultural dimension and innovativeness among employees. Finally, the mediating role of employee empowerment in the culture–innovation relationship is explored, leading to the

development of a conceptual framework and research hypotheses.

Dimensions of Organizational Culture.

Organizational culture has been understood as a system of shared values, beliefs, norms and practices that determine the behavior of employees and how the organization operates (Schein, 2010; Denison, 1990). Culture gives employees a sense of identity, sets behavioral expectations, and shapes the behavior of organizational members in their interpretation and response to internal and external challenges. There are different frameworks that scholars have suggested as a way of conceptualizing organizational culture. An example is that Hofstede (2001) focuses on shared values and practices whereas Cameron and Quinn (2011) categorize organizational cultures into clan, adhocracy, market, and hierarchy cultures. According to the model of Denison (1990), there are four fundamental cultural characteristics, which are mission, involvement, adaptability and consistency that determine the effectiveness of an organization. Organizational culture is the unseen binding force that holds an institution together. It is not only a mere system of shared values and beliefs but also serves as a cognitive map, which assists employees in complex environments. Knowing the exact dimensions that make this culture, organizations (especially those that are in high stakes service industries such as banking) can be able to better influence motivation and innovative behavior among employees. In services, there are five dimensions that are vital in operationalizing culture.

One of the most powerful cultural dimensions that influence the behavior of employees, especially innovation, is management style. The behaviors of leadership influence the perception of employees about psychological safety, autonomy, support, and encouragement, which are necessary factors to be innovative (Amabile et al., 1996). The high rates of employee creativity and innovative behavior have always been linked to transformational, participative, and supportive styles of leadership (Khuan). Et al., 2024). Transformational leaders motivate employees by vision, intellectual stimulation, individualized consideration, and role modeling, thus motivating employees to question the status quo and seek new ideas (Bass and Avolio, 1994). Participative leadership, where employees are included in the decision making processes, makes them feel a sense of ownership and responsibility and thus they are more engaged in the innovative activities (Somech, 2006).

On the other hand, authoritarian or transactional management styles that involve strict control, top-down communication, and strict performance monitoring can suppress innovation by deterring risk-taking and suppressing employee voice (Jung et al., 2003). Balanced leadership styles, where control and support are balanced and autonomy is considered, are especially significant in highly regulated industries like banking where compliance and risk management is a key concern. Empirical research has revealed that there is a positive correlation between supportive management styles and employee innovative behavior in different industries, including financial services. As an example, research has indicated that employees who feel that their managers are supportive and empowering tend to generate, promote and implement new ideas more (Suzana, et al., 2024). This connection is particularly applicable to banking where the encouragement of the managers may allow employees to propose process enhancements, innovations in services, and customer-focused solutions.

Employee Innovative Behavior (EIB) has been considered by modern organizational psychology as the blood of competitive advantage. In contrast to creativity that emphasizes the development of new ideas, EIB is a multi-step process that involves the development, selling, and putting of the same ideas into a work position, team, or company. Management Style is the main trigger- or deterrent-of this behavior. Managers, being the linkage between organizational strategy and individual action, establish the so-called psychological climate that makes a difference between a safe-playing and a creative leaper employee.

Cooperation is the extent of collaboration, trust, mutual support and teamwork between members of an organization. It is a measure of how willing employees are to collaborate towards a common objective, share ideas freely and how they can help each other to complete tasks. The culture of cooperation promotes the sharing of knowledge, group problem-solving, and social learning, which are vital in innovation (Nonaka and Takeuchi, 1995). In these conditions, not only are employees encouraged to share their personal expertise, but also encouraged to combine their knowledge with the knowledge of others, resulting in the development of new insights and solutions. This group strategy will help the organization to be more adaptive, learn and innovate in a dynamic business environment. Innovation is a social process by nature and in many cases it may involve the incorporation of different views, knowledge, and experiences. The higher the level of cooperation is, the more likely the teams will share ideas freely, constructively challenge assumptions, and build on each other.

These types of collaborative interactions are conducive to creativity and allow employees to develop and perfect ideas through ongoing feedback. In addition, collaborative teams are more likely to build better interpersonal relationships, which also boosts communication and coordination. This does not only enhance the quality of decision-making but also hastens the execution of the innovative ideas in the organization. One of the main ways in which cooperation can boost innovation is by generating psychological safety. Employees will be encouraged to think creatively and experiment when they feel free to air their ideas without fear of being criticized or subjected to adverse effects (Edmondson, 1999). Collaborative settings lower the level of interpersonal conflict and foster trust, enabling employees to take risks and present unorthodox ideas. This is especially essential in the innovation processes, where failure is usually a natural aspect of experimentation and learning. Competitive, fragmented or distrustful workplaces, on the contrary, may prevent the sharing of knowledge and may discourage the employees to present new ideas because of fear of criticism or failure. These environments can result in knowledge hoarding, decreased cooperation and eventually, decreased rates of innovative behavior.

The banking industry is one of the industries where cooperation is highly valued because the work of the different departments like operations, credit, risk management, marketing, and customer service is interdependent. Financial services are complex and therefore there needs to be a smooth integration of these units to provide integrated solutions and ensure high quality of services. As an example, the creation of a new financial product or customer experience enhancement may require the input of several departments, each contributing to specific knowledge. These processes may be disjointed without proper collaboration, resulting in inefficiencies and lack of innovation opportunities. Empirical data indicates that cooperative cultures have positive relationships with service innovation, employee engagement, and financial institutions performance (Theodorsson et al., 2025). Teamwork improves access of the employees to information, resources, and social support that boosts their ability and confidence to behave innovatively. Employees are more inclined to work hard in creative problem-solving and continuous improvement when they feel supported by their colleagues and organization. Moreover, teamwork creates a feeling of responsibility and ownership of results, which also encourages employees to present new ideas.

Moreover, cooperation is not only about the harmonious relations; it is a prerequisite of organizational success. The lack of cooperation may be a major impediment to performance in knowledge-intensive industries such as banking where the flow of information and decision-making processes are highly interlinked. A collaborative organizational culture will ensure that knowledge is shared effectively, resources are used to the best of their ability, and employees are geared towards shared goals. It fosters an atmosphere in which innovation can flourish through the use of collective intelligence and the creation of a culture of constant learning.

The term cooperation is used to denote the level of collaboration, trust, supportive and teamwork within the organizational context. Cooperative culture helps in sharing knowledge, solving problems collectively, and social learning which is key to innovation (Nonaka and Takeuchi, 1995). Innovation is a social process in nature and in many cases involves the incorporation of different opinions, knowledge and experiences.The groups with a high degree of cooperation tend to be more inclined to open up their ideas, questioning assumptions, and develop based on the input of others. These conditions minimize interpersonal conflict, provide more psychological safety, and encourage experimentation, which contribute to innovative behavior (Edmondson, 1999). Conversely, competitive, fragmented or distrustful work environments may block knowledge sharing and may not encourage employees to suggest new ideas in fear of being criticized or failing.

Cooperation in the banking sector is especially valuable because of the interdependence of activities within various departments like operations, credit, risk management, marketing, and customer service. Close coordination between these units is critical in coming up with integrated service solutions, customer experience, and in meeting regulatory standards. Empirical results indicate that cooperative cultures have a positive relationship with service innovation, employee engagement, and financial institution performance (Theodorsson, et al., 2025).In addition, cooperation improves access of employees to information, resources and social support that improve their ability and confidence to behave innovatively. Therefore, organizational culture that is cooperative is a key enabler of employee innovation, particularly in complicated and service-intensive environments such as banking.While individual talent - is not merely "getting along"; it is functional requirement. Innovation is social in nature, involving a network of trust, mutual resources, and mutual problem-solving.

Problem Statement

The banks in Sindh Province, Pakistan, which are privately owned by the sector, have been experiencing mounting pressure to improve the quality of services offered, the efficiency of operations, and customer satisfaction as they cope with the speedy changes in technology and regulations. Innovative behavior of employees has been of critical concern to the sustainability and success of an organization in such a competitive and dynamic environment. Nevertheless, a significant number of banks still have a more hierarchical structure, inflexible processes and centralized decision making, which do not allow employees to be autonomous and innovate.Despite the general acceptance of organizational culture as a major influence on employee behavior, there is lack of empirical studies on the effect of specific dimensions of organizational culture on innovative behavior of employees in the banking industry of Pakistan. In addition, although employee empowerment has been considered an essential tool in which organizational practices influence employee performance, its mediating nature between organizational culture and innovative behavior has not been sufficiently studied in that regard (Bindel, et al., 2025).

Extant research has tended to concentrate on direct correlations between culture and performance or innovation without paying much attention to the psychological and structural mechanisms underpinning the transfer of cultural features into innovative behaviours at the employee level. Moreover, majority of the empirical data is based on developed economies reducing the extrapolation of the results to developing economies like Pakistan where organizational, cultural, and institutional backgrounds vary widely.The essence of the issue that this research will focus on is the deficiency of empirical knowledge on how the organizational culture dimensions: management style, cooperation, adaptability, reward system and formalization impact innovative behavior of employees with the mediating role of employee empowerment in the banks of the private sector, located in the Sindh Province, Pakistan. This

issue should be tackled in order to create evidence-based interventions to promote empowerment, innovation and organizational performance within the banking industry.

Research Questions

This study has the following research questions.

- What are the dimensions of organizational culture that derive employee innovative behavior?
- Does employee empowerment mediate the relationship between dimensions of organizational culture and employee innovative behavior?

Research Objectives

This study has the following research objectives.

- To examine the relationship between the Management Style as a component of organizational culture and the employee innovative behavior.
- To analyze the relationship between Cooperation as a component of organizational culture and the employee innovative behavior.
- To evaluate the relationship between Adaptability as a component of organizational culture and the employee innovative behavior.
- To examine the relationship between Reward system as a component of organizational culture and the employee innovative behavior.
- To understand the relationship between Formalization as a component of organizational culture and the employee innovative behavior.
- To evaluate the meditating role of employee empowerment between the components of organizational culture and the employee innovative behavior.

Significance and Scope of the Study

This study offers significant contributions at theoretical, practical, and policy levels.

Theoretical Significance:

The work contributes to the current literature by bringing into a conceptual framework the importance of organizational culture, employee empowerment, and the innovative behavior of employees. The empirical analysis of employee empowerment as a mediator variable contributes to the theoretical knowledge on how and why employee level organizational culture affects innovation. It also adds context-related evidence on the basis of the private banking sector in Pakistan, therefore, adding the global body of knowledge with a developing economy.

Practical Significance:

This study offers evidence-based advice to the bank managers, human resource professionals, and organizational leaders on how to design and implement the cultural practices and empowerment strategies, which promote innovative behavior. The results can be used in the development of leadership, the design of reward systems, employee training and organizational policies that will help to improve employee engagement, creativity, and performance.

Research Gap

- Although the literature highlights the role of organizational culture as an important determinant of creating innovative behavior, the relationship between these two variables has scarcely been addressed in empirical research.
- However, there is a lack of studies aiming to identify what type of organizational culture should be adopted to enhance innovative environment within a firm in the context of developing countries (Ali Ababneh, 2024). This study tries to fill this gap in the literature.

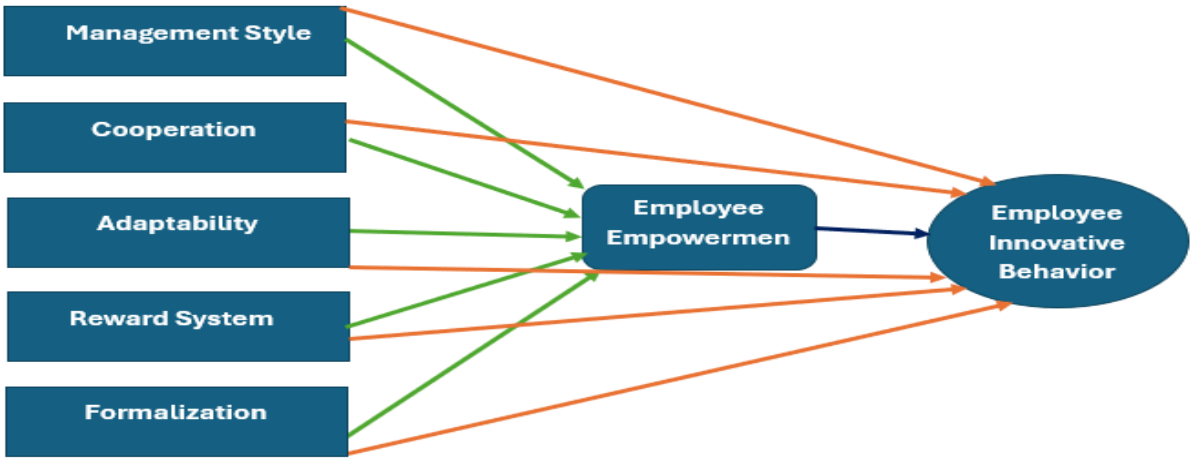
Research Hypotheses

Based on the review of literature, the following research hypotheses are developed.

- **Hypothesis#1:** Organizational culture, in particular, the Management Style, has a great impact on the innovative behavior of employees.
- Hypothesis #2: Cooperation as an element of organizational culture has a high effect on the employee innovative behavior.
- Hypothesis3: The adaptability as an aspect of organizational culture greatly affects the employee innovative behavior.
- Hypothesis#4: Organizational culture reward system has a significant impact on the employee innovative behavior.

- Hypothesis#5: Formalization as an aspect of organization culture has a great impact on the employee innovative behavior.
- Hypothesis# 6: The employee empowerment plays an important role in mediating the relationship between Management Style as a part of the organizational culture and the employee innovative behavior.
- Hypothesis#7: The employee empowerment significantly mediates relationship between Cooperation as a component of organizational culture and the employee innovative behavior.
- Hypothesis#8: Relationship between adaptability as an element of organizational culture and employee innovative behavior is greatly mediated by the employee empowerment.
- Hypothesis#9: The employee empowerment significantly mediates relationship between reward system as a component of organizational culture and the employee innovative behavior.
- Hypothesis#10: Relationship between organizational culture and employee as a component of formalization and the employee creative behavior is significantly mediated by the employee empowerment.

Conceptual Model



Source: This model is designed based on the research studies of Alshemmari, (2023); Bani-Melhem, et al. (2019); and Van Der, et al. (1997).

Research Methodology

The current study is based on the positivist research philosophy, which presupposes that the social phenomena are objective and measurable, analyzable, and explainable by empirical observation and statistical methods. Positivism focuses on employing systematic procedures, measurable data, and scientific rigor to determine patterns, test relationships, and produce generalizable results. Positivism is especially suitable in the context of this study as the research aims to test the relationships between organizational culture, employee empowerment, and innovative behavior of employees through the prism of measurable constructs. This philosophical position guarantees objectivity in the study, reduces researcher bias, and uses observable and verifiable evidence to make conclusions.The research design is quantitative and thus the positivism is suitable. Structured data collection tools, including questionnaires with standardized scales, will be used to gather data, which will allow the measurement of the key variables in numerical form. Statistical tools will then be used to test the hypotheses proposed using these data.

The research is deductive research approach according to the positivist paradigm. Deduction entails formulation of hypotheses using known theories and previous empirical research and testing of the hypotheses. In this study, the theories that are pertinent to organizational culture, employee empowerment, and innovative behavior are used to establish hypotheses. These hypotheses are then tested using primary data collected with the help of respondents and the researcher can either accept or reject theoretical propositions. This methodical advancement of theory to data ensures logical coherence and strengthens theoretical input of the research. The deductive method also makes the research more clear and concise. The research process has a systematic direction of the study as the variables and the hypothesized relations are defined in advance. It enables the researcher to measure abstract notions into quantifiable indicators and the constructs are testable. Moreover, this approach supports the use of advanced statistical techniques, such as regression analysis or structural equation modeling, to examine causal relationships and the strength of associations among variables. Notably, positivist philosophy and deductive reasoning can be combined to enable the thorough study of causal relationships between organizational culture, employee empowerment, and innovative behavior of employees.

Research Design

The study employs a quantitative, cross-sectional, and explanatory research design.

- Quantitative design applies quantitative methods to measure variables, analyze relationships quantitatively using statistical methods.
- Cross-sectional design entails the gathering of data on respondents at a given moment and it is effective in studying the perceptions, attitudes and behaviors of a specified population.
- Explanatory design is used to test the cause and effect relationship amongst independent and mediating variables and dependent variables.

This design is appropriate for examining the mediating role of employee empowerment in the relationship between organizational culture and employees' innovative behavior.

Population of the Study

The study sample is all employees of the private sector banks in Sindh Province, Pakistan. This encompasses employees who work in different functional departments (e.g., operations, customer service, credit, risk management, marketing, IT and administration) and hierarchical levels (e.g., frontline staff, supervisors, middle management, and senior management).The choice of banks in the private sector was based on their competitive nature, client-focused operations, and the growing focus on innovation, which made them an appropriate environment in which the variables of the study could be analyzed.

Sampling Technique and Sample Size

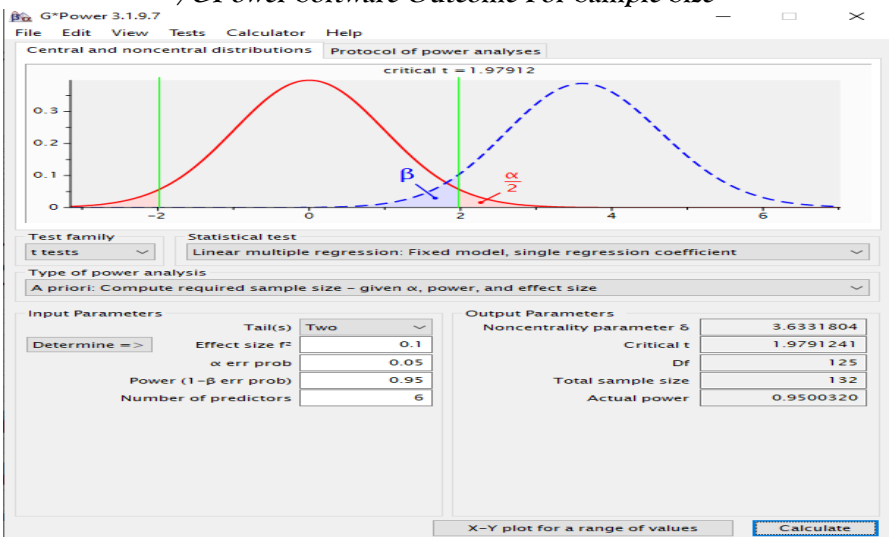
Sampling Technique

Since there is a shortage of time and resources, the convenience sampling will be used to reach the respondents in the private sector banks in the Sindh Province. This sampling method is appropriate in exploratory and explanatory research in organizations where frames of complete sampling are not easily available.

Sample Size

G*Power software was used to determine the minimum required sample size and in this case, the threshold was 132 respondents to reach a sufficient level of statistical power. In order to be robust and to counter non-response, 500 questionnaires of the survey were distributed. Four hundred and twelve completed questionnaires were obtained and were considered to be useful in the analysis, providing the response rate of 82.4 that is above minimum requirements of social science research and contributes to the trustworthiness of the results.

/GPower Software Outcome For Sample Size



Data Collection Method

Primary data were collected using a **structured survey questionnaire** administered to employees of private sector banks in Sindh Province. The questionnaire was distributed in both printed and electronic formats to maximize accessibility and response rates.

The instrument was developed based on established research studies, specifically:

- Alshemmari (2023),
- Bani-Melhem et al. (2019), and
- Van der Vegt et al. (1997).

Prior to full-scale data collection, the questionnaire was **pilot tested** to assess clarity, relevance, and reliability of the measurement items.

Data Analysis

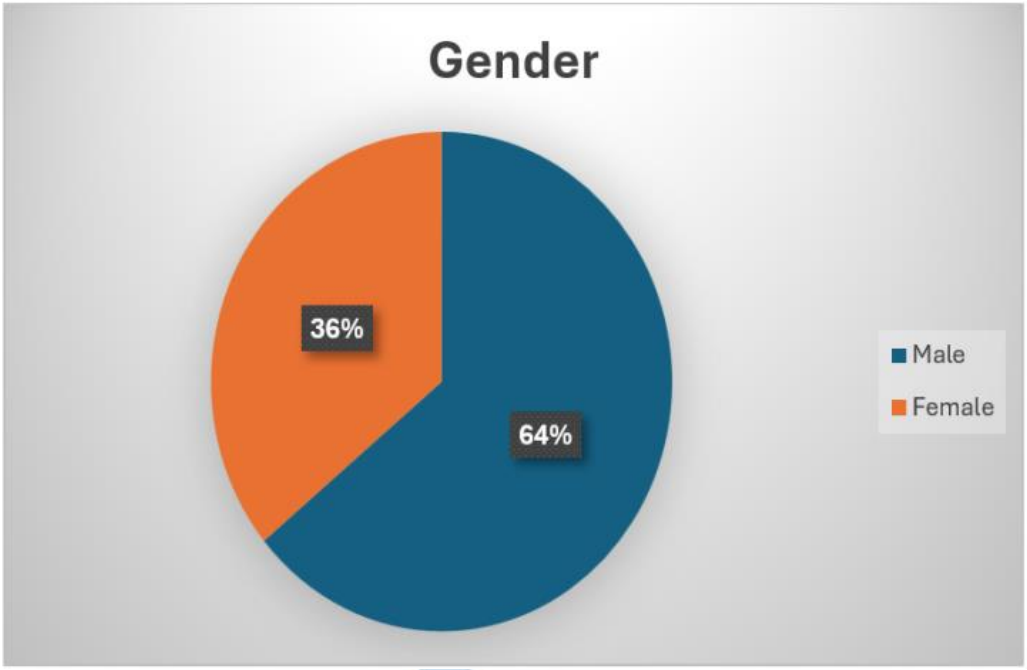
The analysis is divided into a number of important parts. First, it describes descriptive statistics to outline the demographic image of respondents and central tendencies of the study variables. Second, the analysis of measurement model is presented, where the reliability, convergent and discriminant validity are assessed to determine the adequacy and quality of the survey instrument. Third, structural model analysis is provided, multicollinearity tests, path coefficients, model fit tests (R, SRMR, NFI), and PLS Predict analysis to determine the predictive relevance of the proposed model. It then examines the direct and indirect (mediating) effects of the dimensions of organizational culture on the innovative behavior of employees and discusses the findings in terms of the theoretical framework and previous studies.

This chapter does not only prove the theoretical framework proposed but also offers insights on the practical implications of organizational culture and empowerment on improving innovation in the banking industry. This discussion combines both the quantitative results and theoretical approaches and emphasizes the way cultural practices and employee empowerment interact in driving innovative behavior in banks of the private sector.

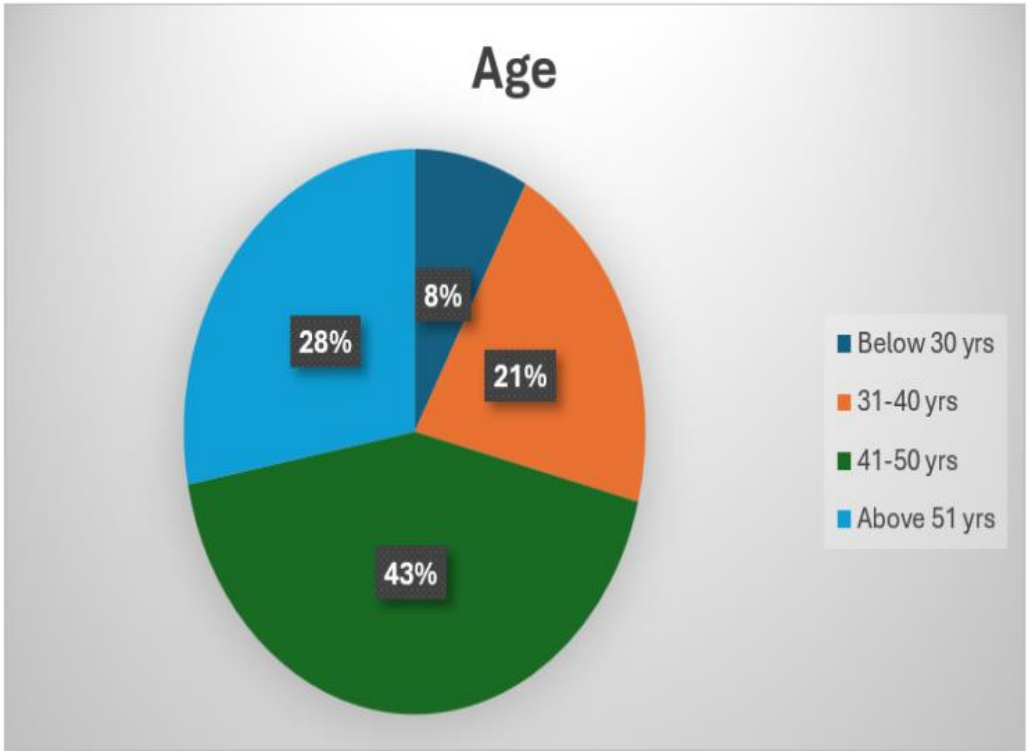
Respondents Profile

Respondents profile is shown in the following graphs.

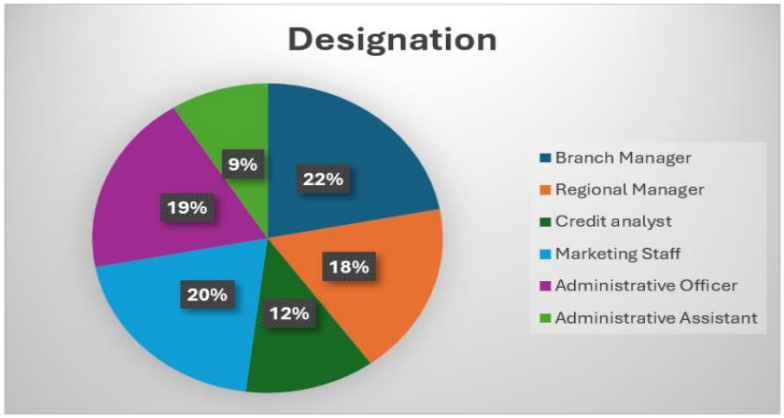
Figure Respondents Profile: Gender



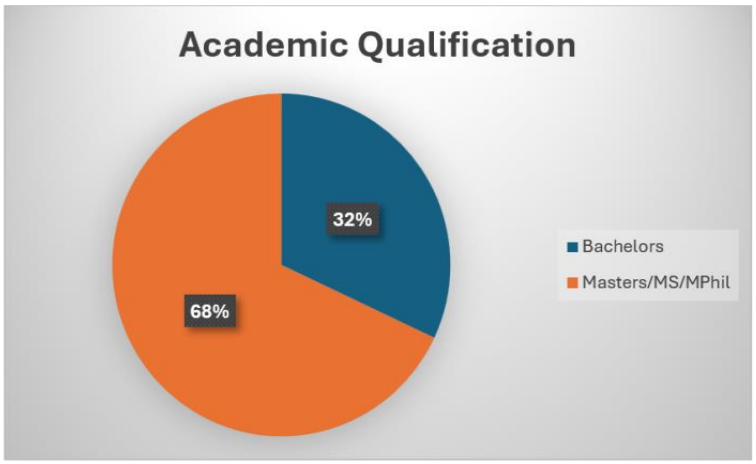
Respondents Profile: Age



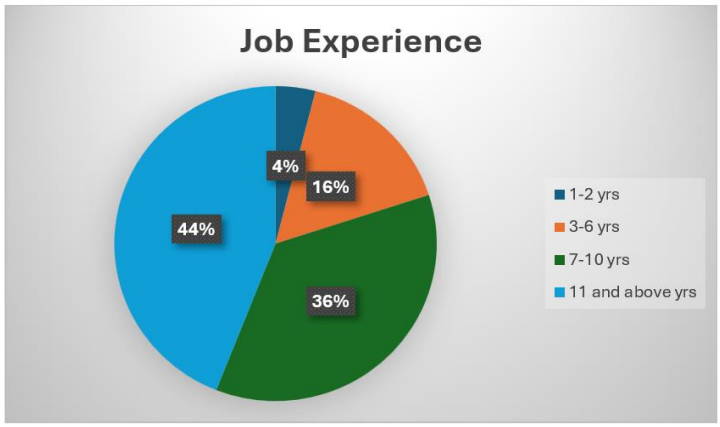
Respondents Profile: Designation



Respondents Profile: Academic Qualification



Respondents Profile: Job Experience



Measurement Model Analysis: Convergent Validity

Convergent validity is used to determine whether various items that measure the same construct agree with each other and share a large percentage of variance. Three indicators that were used to assess convergent validity in this study include factor loadings, Cronbachs alpha and Average Variance Extracted (AVE).

The findings show that the entire constructs of management style, cooperation, adaptability, reward system, formalization, employee empowerment and innovative behavior of employees exhibit satisfactory internal consistency and convergent validity. Particularly, the values of the alpha of the Cronbach of all variables are greater than the recommended value of 0.70 indicating high internal reliability of the measurement scales.

Moreover, the AVE values of all constructs are greater than 0.50, which means that all constructs show more than a 50 percent variance in the corresponding indicators. This proves that the measurement items are convergent to a considerable degree to their respective latent constructs.

Together, these results are good empirical evidence of convergent validity of the measurement model, and thus these constructs should be used in further structural model analysis.

Measurement Model Analysis: Convergent Validity

Variables	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
OCMS	0.817	0.824	0.848	0.582
OCCP	0.821	0.845	0.857	0.601
OCAD	0.782	0.789	0.796	0.561
OCRS	0.838	0.842	0.860	0.614
OCFM	0.806	0.823	0.839	0.566
EMEP	0.864	0.871	0.884	0.647
EIBH	0.732	0.750	0.781	0.553

Measurement Model Analysis: Factor Loadings

Items	Loadings	Items	Loadings
OCMS#1	0.899	OCRS#4	0.779
OCMS#2	0.864	OCRS#5	0.786
OCMS#3	0.901	OCFM#1	0.898
OCMS#4	0.912	OCFM#2	0.918
OCMS#5	0.783	OCFM#3	0.896
OCCP#1	0.820	OCFM#4	0.906
OCCP#2	0.887	OCFM#5	0.749
OCCP#3	0.756	EMEP#1	0.763
OCCP#4	0.818	EMEP#2	0.731
OCAD#1	0.823	EMEP#3	0.785
OCAD#2	0.884	EMEP#4	0.843
OCAD#3	0.762	EIBH#1	0.729
OCAD#4	0.824	EIBH#2	0.803
OCRS#1	0.836	EIBH#3	0.847
OCRS#2	0.839	EIBH#4	0.794
OCRS#3	0.769	EIBH#5	0.846

Measurement Model Analysis: Discriminant Validity: Fornell Larcker Criterion

Discriminant validity looks at how separate a construct is actually with respect to other constructs both theoretically and empirically. This paper has evaluated the discriminant validity by the FornellLarcker criterion where the square root of the Average Variance Extracted (AVE) of each construct is compared with the correlations between the construct and the other constructs.

The findings indicate that the square root of AVE of each construct is larger than its maximum correlation with other construct, thus meeting the FornellLarcker criterion. This implies that a construct has more variance with its indicators as compared to other constructs in the model.

Based on this, the results indicate that sufficient discriminant validity is met among all the study variables such as the dimension of organizational culture, employee empowerment and innovative behavior of employees. This helps to prove the uniqueness of the constructs and legitimize their presence in the structural model.

Measurement Model Analysis: Discriminant Validity: Fornell Larcker Criterion

Variables	OCMS	OCCP	OCAD	OCRS	OCFM	EMEP	EIBH
OCMS	**0.812**						
OCCP	0.146	**0.891**					
OCAD	0.517	0.428	**0.771**				
OCRS	0.315	0.038	0.089	**0.863**			
OCFM	0.561	0.409	0.431	0.313	**0.767**		
EMEP	0.088	0.556	0.565	0.365	0.554	**0.832**	
EIBH	0.079	0.069	0.413	0.506	0.296	0.367	**0.852**

4.4.1 Measurement Model Analysis:

Discriminant Validity: Heterotrait-Monotrait Ratio In this study, the Heterotrait-Monotrait (HTMT) ratio of correlations was used to evaluate the discriminant validity between the constructs. Discriminant validity is the degree to which a construct is actually different in the model when compared to other constructs in the model, conceptually and empirically. In Structural Equation Modeling (SEM), it is necessary to establish discriminant validity as it assures that each construct measures something distinct about the phenomenon being studied. The HTMT criterion is generally considered to be a more rigorous and dependable way of assessing discriminant validity than the traditional approaches to assessing discriminant validity, like the FornellLarcker criterion or cross-loadings.HTMT compares the between-construct correlations (heterotrait-heteromethod) to the within-construct correlations (monotrait-heteromethod). To put it in simpler terms, it looks at the strength of the relationship between items of various constructs with one another in comparison to the strength of the relationship between items of the same construct with one another. In case constructs are really different, the correlations between them should not be too high. Based on the guidelines, HTMT values less than 0.85 represent sufficient discriminant validity, with a more permissive 0.90 occasionally used in exploratory research.

The HTMT values of any pair of constructs were observed in this study to be less than the recommended value of 0.85, and also significantly less than the more conservative value of 0.90. These findings are a clear indication that the constructs are empirically different amongst

themselves. The comparatively low HTMT ratios imply that the correlations between the measures of various constructs are not too strong, which proves that each construct is a measure of a different concept. This is especially significant considering that certain variables in the model are conceptually close, e.g., various aspects of organizational culture, which might easily overlap otherwise without adequate differentiation.The results are a good indication that the measurement model does not have a problem of discriminant validity. Each construct, be it the dimensions of organizational culture, or the empowerment of employees, or the innovative behaviour of employees, is unique and does not overly overlap with other constructs. This will make sure that the measurement items are properly allocated to their constructs and that the model is not redundant or conceptually ambiguous.Moreover, the discriminant validity helps to strengthen the credibility and overall strength of the model. It makes sure that future analyses, especially testing of structural models, are founded on solid and clear constructs.

Measurement Model Analysis: Discriminant Validity: Heterotrait-Monotrait Ratio

Variables	OCMS	OCCP	OCAD	OCRS	OCFM	EMEP	EIBH
OCMS							
OCCP	0.412						
OCAD	0.341	0.333					
OCRS	0.327	0.695	0.301				
OCFM	0.386	0.508	0.418	0.218			
EMEP	0.551	0.704	0.623	0.572	0.495		
EIBH	0.265	0.379	0.631	0.064	0.345	0.182	

Structural Path Model Analysis: Multicollinearity: Variance Inflation Factor

The multicollinearity was evaluated before testing the structural relationships among the study variables to determine the accuracy and stability of the regression estimates. Otherwise, it may undermine the reliability and validity of the structural model. Thus, the analysis of multicollinearity is an important initial step in the quantitative data analysis, especially when more than two predictors are incorporated in the model. In this research, the management style, cooperation, adaptability, reward system and formalization were all included in the structural model and the Variance Inflation Factor (VIF) of each variable was determined. The VIF is a diagnostic metric that is commonly employed to measure the degree to which the variance of an estimated regression coefficient is inflated by multicollinearity. An increase in VIF value implies a higher level of collinearity between predictors. Based on universally agreed-upon principles, VIF values that fall below 5 are acceptable and reflect that multicollinearity is not a critical issue. Other researchers suggest a more strict threshold of 3.3 to make the model more robust.

The analysis outcomes indicated that the VIFs of all the independent variables were below the mark of 5. In addition, all of the values were within acceptable limits even using the more conservative criterion of 3.3. The findings indicate that there is no multicollinearity at such a high level that would jeopardize the model. The independent variables are adding their own information and no undue overlapping of the predictors is present to confound the estimation of the regression coefficients. The fact that there is no serious multicollinearity means that the independent variables are distinct enough between each other, representing various dimensions of organizational culture. Moreover, low multicollinearity enhances the validity of the statistical findings by minimizing the chances of inflated standard errors and unstable estimates. This, in its turn, enhances trust in testing hypotheses and interpretation of path coefficients in the structural model. It will provide

researchers with more confidence that the relationships observed are not due to high intercorrelations between predictors.

Structural Path Model Analysis: Multicollinearity: Variance Inflation Factor

Variables	EMEP	EIBH
OCMS	1.496	1.278
OCCP	2.068	2.363
OCAD	1.381	1.585
OCRS	1.246	1.718
OCFM	1.485	2.471
EMEP		1.103

Structural Path Model Analysis: Path Model Fit Indices

The structural path model was assessed to evaluate the overall fit of the proposed theoretical framework and the explanatory power of the model. Three key indices were examined: R^2, Standardized Root Mean Square Residual (SRMR), and Normed Fit Index (NFI).

- R^2 (Coefficient of Determination): model generated a value of 0.746 of the R2 of the dependent variable which is employees innovative behavior. It means that the independent variables (management style, cooperation, adaptability, reward system, and formalization) and the mediating influence of employee empowerment can explain around 74.6 percent of the difference in innovative behavior of employees. This is a powerful explanatory force indicating that the model explains a significant percentage of the variation in the innovative behavior.
- SRMR (Standardized Root Mean Square Residual): The value of SRMR is 0.088 that is lower than the standard value at 0.10, this means that the model fits. SRMR evaluates average variation between observed and predicted correlations and values less than 0.10 indicate that the model fits the observed data satisfactorily.
- NFI (Normed Fit Index): The NFI value stands at 0.942, which is higher than the recommended threshold of 0.90. This shows that this proposed model fits the data much better than a null model, which further supports the adequacy of this proposed model.

Collectively, these fit indices demonstrate that the structural model exhibits good overall fit and is appropriate for examining the hypothesized relationships between organizational culture, employee empowerment, and employees' innovative behavior.

Structural Path Model Analysis: Path Model Fit Indices

	R-square	R-square Adjusted
EMEP	0.746	0.744
EIBH	0.608	0.605
	Saturated model	Estimated model
SRMR	0.088	0.088
NFI	0.942	0.942

Effect Size: F-Square

	EMEP	EIBH
OCMS	0.565	0.449
OCCP	0.346	0.201
OCAD	0.027	0.311
OCRS	0.672	0.613
OCFM	0.232	0.177
EMEP		0.586

Structural Path Model Analysis:

PLS Predict was performed to determine the predictive relevance of the structural model. PLS Predict: is an out-of-sample predictive method that can be applied in Partial Least Squares Structural Equation Modeling (PLS-SEM) to assess the predictive capability of the model on novel data. This method gives an idea about the usefulness and a generalizability of the model in practice.

The dependent variable in this study was the innovative behavior of the employees. PLS Predict generated prediction error on each measure of the construct which was compared with a linear benchmark model (LM). The findings showed that all the predict values of Q 2 were positive, that is, they were greater than 0. The positive values of Q2 are indications that the model possesses medium to strong predictive relevance since the PLS-SEM predictions tend to be more precise than pure mean-based predictions.

Further, the root mean squared error (RMSE) analysis of the PLS predictions indicated that most of the indicators had lower RMSE values as compared to the benchmark, thus affirming that the model is more predictive accurate in comparison to naive linear models.

In general, the PLS Predict findings confirm that the hypothesized structural model has not only a good fitting to the observed data but also has the strong predictive ability, and this fact substantiates its relevance to the context of predicting the innovative behavior of employees working in the banks of the private sector.

Structural Path Model Analysis: PLS Predict

	Q^2predict	PLS-SEM_RMSE	LM_RMSE	PLS-SEM_MAE	LM_MAE
EMEP#1	0.425	0.734	0.767	0.752	0.781
EMEP#2	0.362	0.806	0.815	0.921	0.933
EMEP#3	0.359	0.701	0.706	0.850	0.862
EMEP#4	0.016	0.865	0.854	0.876	0.851
EIBH#1	0.506	0.782	0.799	0.901	0.913
EIBH#2	0.517	0.801	0.814	0.808	0.829
EIBH#3	0.499	0.885	0.905	0.864	0.883
EIBH#4	0.014	0.784	0.753	0.864	0.806
EIBH#5	0.252	0.784	0.797	0.906	0.919

Structural Path Model Analysis: SEM Estimates: (Direct Paths)

PLS-SEM was used to test the direct correlation between the five dimensions of organizational culture, management style, cooperation, adaptability, reward system and formalization and the innovative behavior of employees. The findings show that all the directions are positive and statistically significant which proves the existence of the hypothesized direct effects and proves the theoretical model. The paths are discussed below.

Structural Path Model Analysis: SEM Estimates: (Direct Paths)

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
OCMS -> EIBH	0.114	0.113	0.036	3.134	0.002
OCCP -> EIBH	0.383	0.377	0.047	8.137	0.000
OCAD -> EIBH	0.310	0.305	0.090	3.444	0.001
OCRS -> EIBH	0.190	0.192	0.041	4.581	0.000
OCFM -> EIBH	0.143	0.143	0.038	3.754	0.000

Employee Innovative Behavior and Management Style

The statistical results confirm that management style is a foundational driver of EIBH. In a service-driven environment, leadership does not just oversee work—it defines the boundaries of what is possible.

Statistical Interpretation

- **Significance (p = 0.002):** The p-value is also much less than the standard alpha of $0.05, which means that the relationship is very significant. It offers empirical data that the management strategy is a good indicator of employee innovation and initiative.
- **The Positive Path (p = 0.114):** The positive beta coefficient shows a positive relationship. The more managers shift to participative and supportive leadership as opposed to autocratic control, the more the number of ideas generated and implemented.
- There are three main psychological levers that supportive and participative styles of management affect innovation:
- **Psychological Safety:** Workers feel that their managers are encouraging, and can propose disruptive ideas without fear of being disregarded or punished in case an idea does not work. This is the safety condition of Idea Generation stage.
- **Increased Self-Efficacy**: Participative leadership involves employees in decision-making. This gives the employee confidence in their own professional judgment and will more likely contribute to Idea Promotion (selling their ideas to others).
- **Resource Advocacy**: resource managers who adopt a supportive style play a role as buffers or sponsors. They supply time, equipment, and money needed to accomplish the Idea Realization stage, transitioning an idea to a practical organizational action.

In banking and other service sectors, "Supportive Management" often manifests as:

1. **Open-Door Policies:** Reducing the perceived distance between hierarchy levels.
2. **Mentorship:** Shifting the manager's role from "Supervisor" to "Coach."
3. **Feedback Loops:** Replacing annual critiques with continuous, constructive dialogue that focuses on "how can we do this better?"

The review indicated that there is the great positive influence of management style on innovative behavior of employees. This implies that employees under the supportive, participative, and transformational leadership are likely to be involved in the generation, promotion, and implementation of ideas. When leaders are able to guide, encourage, and give constructive feedback they are able to foster an

atmosphere of psychological safety where employees feel comfortable to bring forth new ideas without fear of criticism.

Management style is another critical factor in the banking environment as the employees are likely to encounter difficult tasks, regulatory limitations, and challenges to face customers. Instead of explaining the goals, supportive managers enable them to explore new strategies, suggest new ways of improving the services and implementing new technologies. This observation conforms to previous studies, which posit that participative and transformational leadership supports creativity and innovation by encouraging employees and offering them freedom in a well-organized environment.

The information indicates that the management may not be considered as a control mechanism but as a catalyst of innovation. Through a deliberate choice of participative style, an organization can strategically enhance its innovative productions, as the impact of 0.114 is considerable on the behavior.

Structural Path Model Analysis: SEM Estimates: (Mediating Paths)

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
OCMS -> EMEP -> EIBH	0.520	0.518	0.070	7.429	0.000
OCCP -> EMEP -> EIBH	0.130	0.130	0.039	3.315	0.001
OCAD -> EMEP -> EIBH	0.044	0.046	0.026	1.670	0.095
OCRS -> EMEP -> EIBH	0.103	0.101	0.038	2.726	0.007
OCFM -> EMEP -> EIBH	0.388	0.386	0.049	7.931	0.000

Source: This study

The Direct Route (p = 0.095): The p-value is greater than the 0.05 level, which makes us fail to reject the null hypothesis concerning this mediation. It is this that indicates that Adaptability and Empowerment are very independent of each other regarding the impact of each on innovation.

The Beta Coefficient (beta = 0.044): This is a very low value, which indicates that the adaptable environment does not necessarily leave an employee more psychologically empowered; it only gives the organization a greater ability to be open to their ideas.

Social Exchange Theory (SET) describes how management style, cooperation and reward systems have such powerful impacts on innovative behavior.

Employees who feel that the leading party treats them in a supportive manner, collaborates, and treats them fairly in turn give additional effort towards creative problem-solving and innovation (Nazir, et al., 2018).

The importance of cooperation and adaptability is supported by Componential Theory of Creativity.

Flexible and collaborative organizational atmosphere improves intrinsic motivation and domain-specific skills, which can be vital in innovative work conduct (Câmpian and Iancu, 2024).

Formalization has a positive influence that is compatible with the Contingency Theory.

Well-articulated rules and procedures, in conjunction with organizational context, minimize ambiguity and allow employees to work on idea generation and implementation (Pacheco-Cubillos, et al., 2024).

Psychological Empowerment Theory describes the mediation processes that are witnessed in the model.

The sense of meaning, competence, autonomy, and impact among employees are reinforced by management style, cooperation, rewards, and formalization and subsequently converted to innovative behavior (Mujtaba, et al., 2025).

The Self-Determination Theory (SDT) explains the improvement of innovation by empowerment.

Employees with greater empowerment enjoy greater autonomy and self-efficacy, which promotes experimentation and active implementation of ideas (Theodorsson, et al., 2025).

Direct effect of adaptability embodies a structural pathway.

Organizational learning and openness to change promote innovation in adaptable cultures, as opposed to empowerment, and this suggests that there are many ways of getting to innovation.

Conclusions:

This research gives a sufficient amount of empirical evidence to the association between organizational culture and innovative behavior of employees, and employee empowerment is a mediating factor in the case of the private sector banks in Sindh Province in Pakistan. The five dimensions of organizational culture management style, cooperation, adaptability, reward system, and formalization have positive and significant direct impacts on the innovative behavior of employees. This reaffirms that cultural practices in banks are pivotal facilitators of innovation. Nurturing leadership, cooperative working conditions, flexible work practices, reward systems that are fair and well-organized structures are all factors that facilitate employees to come up with new ideas, promote and put them into practice. The relationship between the four cultural dimensions (management style, cooperation, adaptability and formalization) and the innovative behavior is partially mediated by employee empowerment. Empowerment will strengthen the cultural practices translation to innovation by increasing the autonomy, competence, meaningfulness, and impact of employees. The results indicate that managing banks must not only be concerned with laying down formal rules and reward systems, but must also design enabling environments that allow staff members to be autonomous and participate. To maintain the level of innovation in competitive banking environments, leadership development, team-building programs, flexible policies, and acknowledgment of contributions are important.

This research contributes to current literature by incorporating organizational culture, employee empowerment and innovative behavior in one framework within the context of developing country. It validates the assertion that empowerment is an important mediating variable, which sheds light on the impact of certain cultural practices on employee innovation. The paper also differentiates between those pathways that need to be empowered and those that operate directly, such as the rewards.In general, it can be concluded that organizational culture is a complex motivator of employee innovation, and empowerment is the key channel through which most cultural aspects are mediated. Banks can build up innovative behavior and increase the organizational performance by strategically developing a culture that is supportive, collaborative, adaptive, structured, and recognition-oriented.

This study empirically establishes an underlying truth of organizational behavior: culture is the most significant predictor of innovative behavior among the employees. Innovation in the context of the high-stakes environment, which is the banking environment of the private sector in Sindh, is a consequence of a carefully created cultural environment.

The five dimensions: Management Style, Cooperation, Adaptability, Reward System, and Formalization were all found to have strong positive correlations with Employee Innovative Behavior (EIBH). This implies that a bank should not be innovative with just one silver bullet. Rather, it should align its leadership, social forces and systems.

- **Holistic Integration:** In case a bank possesses receptive management and a strict, un-adaptable structure, the Permission to innovate will be received with Structural Resistance.
- **The Banking Context**: In Sindh, where the banking sector is experiencing a fast digitalization, these cultural dimensions serve as the readiness factors according to which a bank will be able to successfully implement Fintech and new service patterns with the help of people.

The most impressive result of this paper is that Cooperation (OCCP) is the best predictor of innovation. This not only disputes the myth of the Lone Innovator, but also shows the highly social character of the banking business.

- **Knowledge Sharing as Raw Material:** In banking, knowledge can be centralized in departments (e.g., Risk, Compliance, Operations). These silos are broken by high cooperation. The ability of employees to freely share information helps them form a collective intelligence that enables it to become enormously easier to identify gaps in the services and come up with creative solutions to them.
- **Power of Teamwork**: Innovation needs to promote ideas. A social safety net is given to an employee in a cooperative environment. Once an employee is certain that his team has his back, then they will be more inclined to express unconventional ideas.
- **Strategic Insight**: In the case of banks in Sindh, this implies that internal competition within the bank (by branches or departments) could be detrimental to innovation. A shift to collaborative KPIs has the potential to unleash a tidal wave of employee-led advances.

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