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## Impact of Leadership Styles on Project Success and Organization Commitment With Mediation of Digital Innovation and Moderating Role of Trust and Digital Work Self- Efficacy

**Muhammad Adeel Yousaf\***

PhD Scholar, Department of Management sciences, Alhamd Islamic University, Islamabad

[adeelask25@yahoo.com](mailto:adeelask25@yahoo.com)

**Dr. Muhammad Zada**

Assistant Professor, Department of Management sciences, Alhamd Islamic University, Islamabad

[muhammad.zada@alhamd.pk](mailto:muhammad.zada@alhamd.pk)

\*Corresponding Author

### ABSTRACT

This research is to determine the impact of Agile and Hybrid leadership styles on digital innovation and organizational commitment in banks. The study made use of responses from 450 participants through SEM; results indicated that both Agile and Hybrid leadership styles significantly influence success towards projects leading to digital innovation, more specifically, project success leads to digital innovation. Findings discussed how trust and self-efficacy regarding digital work are mediators for improved effectiveness in the leadership process, which is learning in practice when traditional forms of hierarchical leadership become less operative within digital spaces. This study suffers from bias in responses and several sector-specific limitations. Other sectors such as healthcare, technology, and manufacturing should be studied further to bring out long-term impacts of leadership. Adaptable leadership inspires employee development, studies emphasize this fact.

**Keywords:** Agile Leadership, Hybrid Leadership, Digital Innovation, Organizational Commitment, Banking Sector, Leadership Effectiveness, Trust, Digital Work Self-Efficacy, Structural Equation Modeling, Employee Engagement, Digital Transformation, Sector-Specific Challenges, Long-Term Impact.

## INTRODUCTION

The forces of change that have been acting upon the global business environment are best described as dynamic, something accurately captured by the terms globalization, digitalization, and technological advancement resultant from such elements as AI, cloud computing, and 5G. Therefore, changes have disrupted the traditional work models with an overemphasis on flexibility that brought accompanying problems of workers' isolation and reduced cooperation-consult (Palumbo et al., 2022). This calls for a new approach to leadership that can create innovation plus productivity and engagement among the workforce.

Agile and Hybrid leadership styles are Agile; it emphasizes adaptability and team empowerment whereas Hybrid leadership combines the traditional and agile practices to manage structured as well as flexible teams (Yasir et al., 2022). These styles are increasingly relevant in the Pakistani banking sector because a rapid digital transformation is occurring there. As per State Bank of Pakistan (SBP, 2023) electronic banking increased by 45% while mobile banking increased by 60%, this indicates the sector's shift towards digital platforms.

Challenges that include employee resistance and ineffectiveness of leadership still prevail (SBP, 2022). There is scanty research on the influence of Agile and Hybrid leadership on the success of projects and organizational commitment measured by the ability to achieve set goals within the budget and emotional attachment to an organization. Recent years have introduced substantial changes to global business structures because of heightened globalization together with rapid digitization and intensifying competition and increasing personalization for customers and shifting towards more network-based operations. The banking sector joined other organizations in adopting new leadership methods to create flexibility and innovation with adaptability features.

The banking industry of Pakistan is a major industry where such leadership styles are much needed because technological changes take place very rapidly. There is little research in academia on the effects of agile and hybrid leadership on project results for digital transformation and employee behaviors involving e-work self-efficacy as well as trust and organizational commitment. Studies in leadership styles together with their organizational performance effects have received extensive examination in existing literature. In-depth research is needed to determine the impact of agile and hybrid leadership strategies upon project achievement within digitally changing organizations. The relationship between these variables requires more extensive research exploration regarding digital innovation mediators and trust as well as e-work self-efficacy moderators especially among the banking sector of Pakistan. The present study completes this research gap by exploring these factors alongside their relationship dynamics to provide better insights about digital leadership practice.

Project management, employee adaptation, and organizational structure pose three primary challenges to banks as a result of rapid digital transformation. Such complexity usually cannot be effectively managed through traditional leadership

styles; hence, leading to project failure and low employee engagement. This paper seeks an answer to the question as to how agile and hybrid leadership approaches contribute to project success if digital innovation mediates the effect and trust plus e-work self-efficacy moderate the impact.

The Agile Leadership approach is adaptive and collaborative while hybrid leadership combines formal structure with agility for dynamic needs of organizations. Digital Innovation refers to adopting digital technologies by business firms in their operations whereas e-work self-efficacy means employees' beliefs regarding their capability of performing well in a digitally enabled working environment. Trust means the confidence workers have in their leaders and the organization and commitment means their emotional attachment and dedication.

Project success covers the achievement of goals, improvements in operations, and satisfaction of stakeholders. These variables come from theoretical frameworks as well as practical considerations in digital leadership. The study gives project managers leadership guidance and also writes policies that advocate for digital leadership across different sectors besides aiding organizations to design workforce development plus strategic planning for sustainable digital transformation.

## **LITERATURE REVIEW**

It reviews theories, concepts, and empirical findings that are critically relevant to this study. Gaps in research are established while the problem is contextualized (Karunarathna et al., 2024). Social Exchange Theory (SET) and the Unified Theory of Acceptance and Use of Technology (UTAUT) provide a background for study. The UTAUT builds on trust and commitment as reciprocal elements that may or may not be present in an organization to institutionalize digital tools, while SET expresses the same concept more generally about how such elements influence organizational outcomes. SET recasts UTAUT under more broad traditional exchange theory dynamics where many dimensions have been shown empirically to impact organizational outcomes.

The two dimensions support analyzing how leadership styles might affect e-work self-efficacy parameters, trust, organizational commitments, as well as project success factors. A hypothesis is built at this level regarding the need that past studies have identified for studying these relationships considering the recent massive transformations in global business practices occasioned by technological advancements and changing market demands (Omol, 2024; Kawiana, 2023).

Globalization led to digitalization and the provision of personalized services. This served as a turn-around in the leadership and organizational practices of firms, most particularly banks and financial institutions (Maleke, 2022). SAP hybrids, AI, cloud computing, big data, Web 3.0, and 5G are all parts of new innovations that reshape paradigms towards adaptive technology-supported leadership practices. Artificial intelligence provides high-level analysis of data while operations can be made agile with the support of cloud computing to ensure effective function within turbulent environments (Liu et al., 2024; Muna et al., 2022).

## **Theoretical Foundations of Agile and Hybrid Leadership**

Agile Leadership fosters rapid development, decentralized decision-making, and enhanced employee autonomy thus being very useful in the application of firms whose operations are supported by technology (Nasir et al., 2024). Agile Leadership is highly preferable in the context of digital transformation, flexible management, and organizational adaptability. That is because it promotes quick development support for decentralized decisions making at all levels and improving employee scope. This was contrasted with Hybrid Leadership which merges Directive style with Participative style allowing leaders to apply one of the two approaches based on prevailing situations. Hybrid Leadership finds immense application within financial institutions, healthcare setups, and big organizations (Nadeem et al., 2024; Yasir et al., 2022).

It helps banks comply with regulations while promoting innovation digitally. Thus, Hybrid Leadership is preferred, providing for decisive decision-making processes and digital agility. Developed banking systems use it to control digital banking transformations with compliance remaining in place. This study develops its conceptual framework basing from such insight in assessing leadership practices in the banking sector of Pakistan where high speed of technological advancement is accompanied by issues regarding remote working, cyber security, and digital trust.

### **Digital Changes in Banking, Leadership Requirements, and Research Gaps**

All sectors are impacted by digital transformation, but banking is particularly vulnerable due to its high security breaches and sensitivity toward customers' data protection adding to regulatory stringency. Tech and eCommerce companies continue their trend of constant digital novelty; healthcare adopts digital instruments with greater caution, attributable to more significant respects for compliance and ethics.

Existing studies pivot their focus on traditional or transformational leadership (Ahmed et al., 2024). Meager empirical evidence found that Agile and Hybrid Leadership influence digital innovation as well as project success in the banking industry. While Yasir et al. (2022) discuss adaptability and digital adoption, they do not expound on factors such as trust and e-work self-efficacy as influencing factors (Wang et al., 2024). This paper tries to fill that gap by providing empirical analyses of the direct and indirect effects that Agile and Hybrid Leadership may have on raising organizational commitment to digital innovation, then, ultimately, project success with trust as well as e-work self-efficacy playing moderating roles and digital innovation acting as a mediating variable.

### **Understanding the Basics of Mediation, Moderation, and a Conceptual Framework**

Digital Innovation mediates the channelling influence of Agile and Hybrid Leadership on project success through innovation, while itself being influenced by leadership styles. This is how Trust and E-Work Self-Efficacy moderate the strength of its channelling influence, that is, Digital Innovation's mediation of leadership's agility and hybridity onto project success through innovation (Tariq et al., 2024). The study will use the theories of Agile and Hybrid Leadership, Digital Innovation

Models, and Organizational Commitment. Agile Leadership allows flexibility and immediacy in decision-making processes, while Hybrid Leadership balances innovation with observance of rules. Digital Innovation denotes enhancement of performance facilitated by technology, whereas Organizational Commitment shows how transformation can be created through trusted-based leadership.

The conceptual framework shows how Agile and Hybrid Leadership can drive project success through Digital Innovation with the moderating influence of Trust and E-Work Self-Efficacy. As A.I. plus digital tools reshape job roles in support of hybrids inside one organization, those organizations accelerating the pace of adoption of such changes have an upper hand to compete (Ali, 2023; Groeger & Berg, 2024; Kadhim, 2024).

### **Leadership Styles in Crisis Situations with Key Concepts and Indices**

Agile leadership promotes quick decision-making and adjustment to changes while Hybrid leadership can sustain steadiness with innovation. Both have been good at managing crises that mainly emanate from declining economies, hackers, and digital fraud when it comes to banking. Risk reduction is a product of Agile leadership; confidence and commitment are results of Hybrid approaches. Such styles are validated by studies as a requirement in the process of management of crises in the financial sector.

Leadership is the process of guiding and influencing groups toward accomplishing a common objective, something that sits at the very heart of digital transformation. Bank leaders require strategic insight, risk management, ethical leadership, and an understanding of how to integrate new technologies (Tariq et al., 2024; Wang et al., 2024).

### **Theory and Framework Basics**

This research therefore, adopts Social Exchange Theory (SET) and Unified Theory of Acceptance and Use of Technology (UTAUT) as its major anchorage. SET explains how different leadership styles create trust and commitment through reciprocal relationships with meddling digital innovation and trust as mediators while e-work self-efficacy puts moderation between leadership and innovation. UTAUT supports the understanding of the usage behaviour of individuals towards digital tools by using performance expectancy, effort expectancy, and social influence as salient constructs for digital transformation in the banking sector.

The model of study therefore proposes to weave these theories comprising Agile and Hybrid Leadership as two independent variables, Digital Innovation a major mediator, Trust and E-Work Self-Efficacy moderators with Organizational Commitment and Project Success as dependent outcomes. It is a framework that should give enough leverage to gun for the multi-dimensional relationships between leadership, innovation, and success factors in Pakistan's digital banking environment as depicted in fig1.

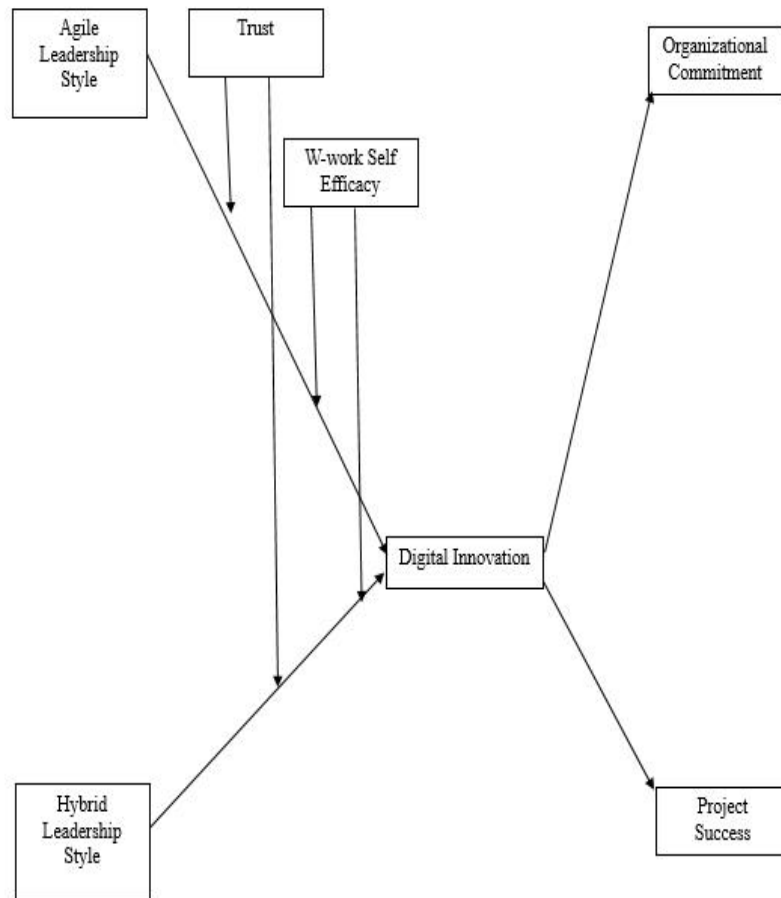


Figure 1: Theoretical - Research Framework Model

### Agile Leadership and Commitment in Organizations

Agile leadership is based on flexibility, collaboration, and adaptability to instil a strong sense of organizational commitment. Transparency invokes empowerment and participation in decision-making that agile leaders would practice; thus building trust and shared value within the organization between the employees. Such an environment enhances employee engagement and loyalty because the workers get to understand what the organization is up to and, therefore, want to ensure its success. Agile practices create a friendly environment that gives room for staff members to make decisions concerning assignments and harmonize their efforts with organizational goals.

The organizational commitment of employees is particularly inspired by how well the organization reflects cultural values that match theirs, particularly in fast-moving industries such as IT. Agile leadership promotes this through encouraging informal communication and team homogeneity which enhances belonging. Where employees experience such synergy, they are more likely to stay committed and work better hence supporting the long-term survival of an organization.

## **RESEARCH METHODOLOGY**

This study uses an explanatory research design to assess the effects of agile and hybrid leadership styles on organizational commitment and project success in banks operating within Pakistan, with digital innovation being introduced as a mediating variable and trust plus e-work self-efficacy serving as moderators. A structured 7-point Likert scale questionnaire was administered among banking professionals located in Rawalpindi, and Islamabad through purposive sampling. Data were collected via online forms and analyzed through Structural Equation Modeling (SEM) together with descriptive statistics and inferential statistics that will help in hypothesis testing as well as getting the real insight into such type of complex relationships among variables.

### **Data Collection, Sampling, and Instruments**

Data collection was done through a structured questionnaire running on a 7-point Likert scale and shared online (Google forms) with 450 employees and managers selected from private banks operating in Karachi, Lahore, Islamabad, and Rawalpindi. Sample size determination adopted the Krejcie and Morgan formula while purposive sampling targeted mid-to-senior level staff purportedly formidable in matters of leadership and digital transformation. A pre-test of the questionnaire with 20 respondents built agile and hybrid leadership, digital innovation, organizational commitment, trust, and e-work self-efficacy on validated scales. Secondary data assisted literature review only. This method made the data valid, reliable, and representative.

### **Data Collection Process & Research Approach**

Data were collected online with a structured questionnaire comprising 69 items on a 7-point Likert scale from middle and senior staff of private banks located both in Rawalpindi and Islamabad. Purposive and cluster sampling was made among those who had any dealings with project leadership and operations. The research design captured perceptions regarding agile/hybrid leadership, organizational commitment, project success, digital innovation, trust, and e-work self-efficacy through validated scales. Thus, data have ensured alignment between quality, quantity, diversity, generalizability, and the objectives of this particular study.

### **Overview of Data Analysis and Checking Hypotheses**

This study used Structural Equation Modeling (SEM) and Moderation Regression Analysis to rigorously test the conceptual model proposed. These statistical treatments permit a view of direct, indirect, and interaction effects among major variables-agile and hybrid leadership styles, organizational commitment, project success, digital innovation, trust, and e-work self-efficacy. Descriptive statistics were initially run to describe respondent demographics. SEM offered an integrated approach in validating the theoretical constructs by means of hypothesis testing as well as mediation and moderation analysis all at one go.

Eighteen hypotheses (H1–H18) were formulated and empirically tested. The summary of results is as under:

H1–H4: Agile and hybrid leadership styles manifest a significantly positive

effect on organizational commitment and project success, validating their pertinence in today’s dynamic banking sector.

H5–H6: This validated the mediation role of organizational commitment at statistics, wherein leadership styles can influence the result of a project through enhancing employee dedication to work and parallelism with the goals of an organization.

H7–H10: Digital innovation came in between leadership styles and both primary results as very strong mediating factors thus stressing the importance of technology adoption and digital transformation for maximizing leadership effectiveness.

H11-H14: The presence of trust significantly moderates the leadership style-outcome relationship. When organizational trust is high, it adds to the positive effects of agile and hybrid leadership toward commitment and project success.

H15-H18: E-work self-efficacy also has a moderating effect in a remote and digital work environment. Employees who have higher self-efficacy respond more positively to leadership practices; therefore, it enhances commitment as well as project performance.

This comprehensive analysis does not only support the hypothesized relationships but also forms a strategic roadmap for future-ready leadership development and successful digital transformation initiatives.

**Methodology: Research Model And Statistical Approach**

The study therefore adopts the design of descriptive quantitative research to probe into the relationships that Agile and Hybrid leadership styles have with digital innovation, organizational commitment, and project success in banks in Pakistan. Descriptive research design is adopted since it best allows for identifying patterns and relationships without any manipulation of variables.

A mediation-moderation mechanism has been proposed:

Digital Innovation mediates the relationship of leadership styles to project success, implying that leadership influences the results mainly through fostering digital transformation. Trust and E-Work Self-Efficacy are seen as moderators of the relationship between leadership styles and innovation and commitment. Where trust is high, and digital confidence exists, effects are enhanced. The study uses the Structural Equation Model (SEM) to test the hypotheses because of its ability to measure complicated relationships comprising both direct and indirect effects. Hierarchical regression and Hayes’ PROCESS Model are used where applicable for validation of mediation and moderation effects, respectively.

**Table 2: Thresholds for Statistical Significance**

To ensure the credibility of results, the following thresholds were applied:

Statistical Measure	Threshold	Purpose
Cronbach’s Alpha ( $\alpha$ )	$\geq 0.7$	Ensures reliability of survey constructs

Composite Reliability (CR)	≥ 0.7	Confirms internal consistency
Average Variance Extracted (AVE)	≥ 0.5	Measures construct validity
Variance Inflation Factor (VIF)	< 5.0	Ensures no multicollinearity
p-value (Significance Level)	≤ 0.05	Determines statistical significance
Path Coefficients (β values)	Higher β indicates stronger relationships	Evaluates impact strength
R <sup>2</sup> (Coefficient of Determination)	≥ 0.3	Measures model fit quality

Applied statistical tests would confirm measure model reliability, validity, and robustness and enable hypothesis testing as shown in Table 2. This methodological strategy enables a rigorous test of all 18 hypotheses, from H1 to H18, and affords an integrated perspective on the interplay of leadership styles with digital capabilities and psychological factors in molding organizational outcomes. The research model fits within today's digital trend and competitive pressure in banking, stressing the strategic role of digital transformation and leadership alignment.

### Table 3: Comparison with Other Research Designs

A brief comparison should be included to demonstrate why descriptive research is the best fit:

Research Design	Purpose	Relevance to This Study
Exploratory	Explores new phenomena with limited prior research	Not suitable, as leadership styles and digital innovation are well-studied concepts
Causal	Establishes cause-and-effect relationships through experiments	Not applicable, as leadership styles cannot be manipulated in controlled settings
Descriptive	Examines relationships and patterns in existing settings	Best fit, as the study observes leadership impact on digital innovation and project success

Comparative analysis reveals descriptive research as the most apt for capturing relationships between leadership and digital transformation in "real-world" banking contexts mentioned in Table 3.

### Justification for Sampling Strategy, its Limitations, and Directions for Future Research

This study applied a stratified sampling plan of managers, IT staff, and project leaders from banks located in different areas of Pakistan so that diversity could be ensured. The sample size has been worked out using the formula given by Krejcie

and Morgan, where a total of X questionnaires have been sent out, Y valid responses received back, making it a Z% response rate. Non-response bias and sector-specific limitations did persist. Certain participants decided to opt out. Results may not generalize to sectors outside the banking industry of Pakistan. The study used data that was self-reported, hence could be subject to social desirability bias. Methodological limitations of this study comprise a small sample size and cannot be extrapolated to such critical industries as healthcare or manufacturing. These factors, together with the mere use of quantitative tools, reduce generalizability.

**Table 4: shows potential limitations**

Potential Limitation	Description	Mitigation Strategy
Self-Reporting Bias	Participants may have given socially desirable responses rather than honest opinions.	Ensured survey anonymity and neutrality in question phrasing.
Non-Response Bias	Some participants did not respond, potentially skewing results.	Sent follow-up reminders and compared early vs. late responses for differences.
Limited Generalizability	Findings are specific to the banking sector and may not apply to other industries.	Acknowledged in the discussion and suggested further research in diverse industries.

The above table sums up some limitations of the study such as self-reporting and sector focus, along with mitigation plans to enhance the credibility and transparency of the study.

## RESULTS AND DISCUSSION

This section gives the information about 450 people who answered the survey, beginning with demographic details and then sharing the results of hypothesis tests.

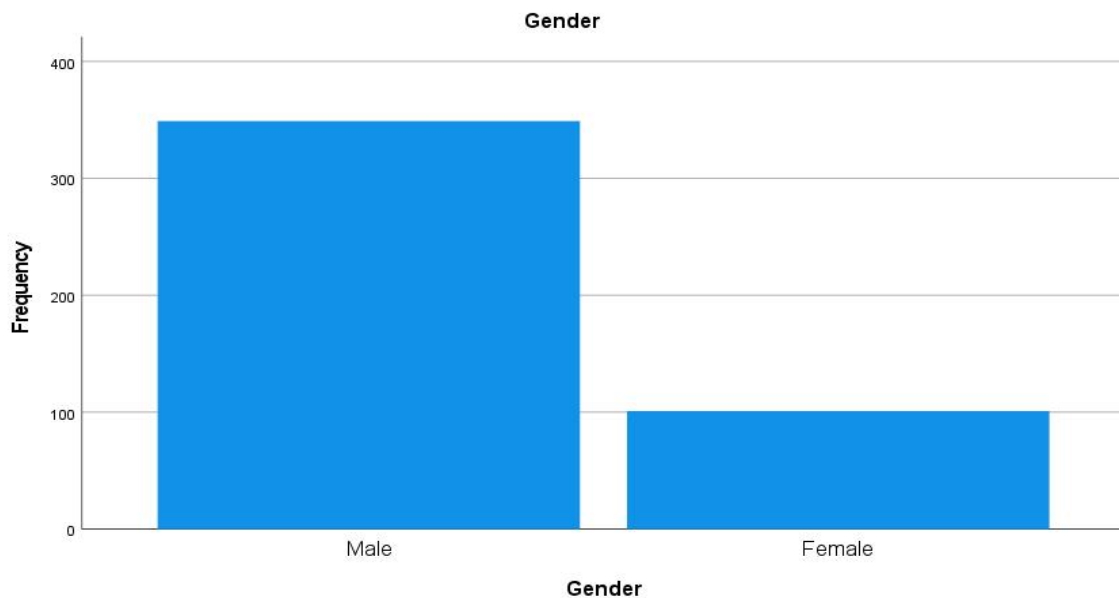
### Statistical Techniques

Simple statistics described the respondents. Chi-square tests looked at connections between categorical factors. Regression analysis studied how leadership styles, digital innovation, and project success are related. Structural Equation Modeling (SEM) offered deep views into both measurement and structural models, proving the assumed links.

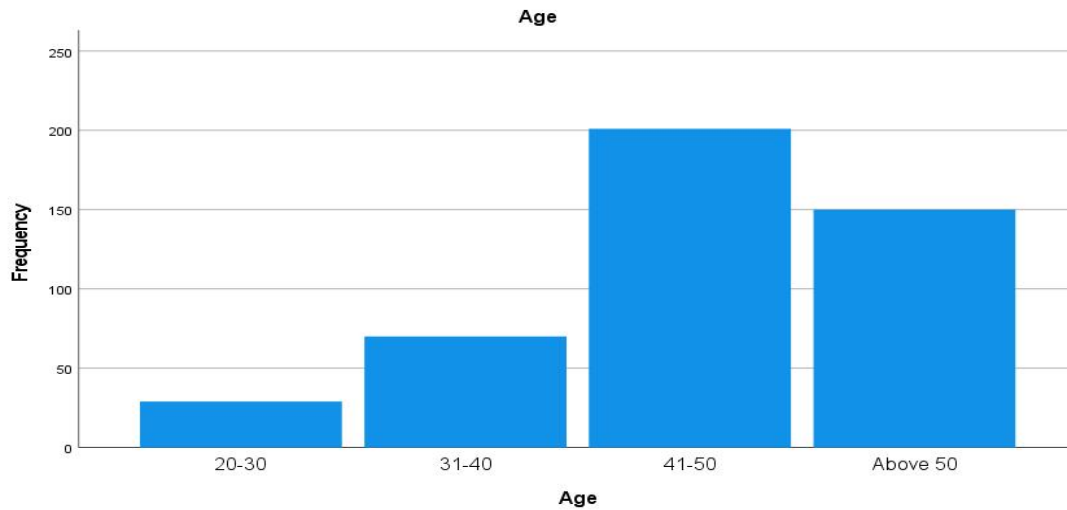
**Table 5: Demographic Characteristics of Respondents (N = 450)**

Variable	Categories	Frequency	Percentage (%)
Gender	Male	349	77.6
	Female	101	22.4
Age	20–30	29	6.4
	31–40	70	15.6

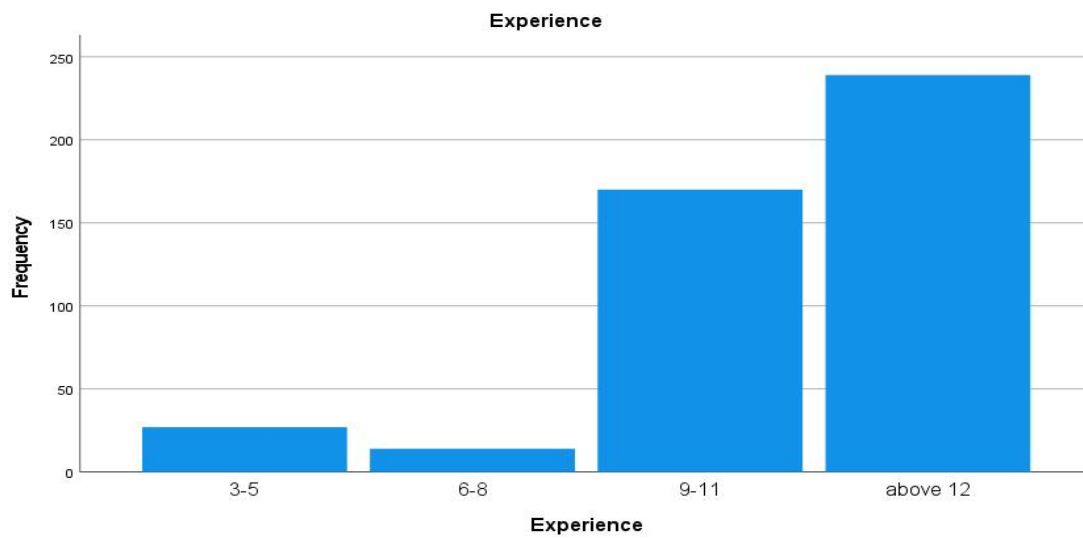
	41–50	201	44.7
	Above 50	150	33.3
<b>Experience</b>	3–5 years	27	6.0
	6–8 years	14	3.1
	9–11 years	170	37.8
	Above 12 years	239	53.1
<b>Department</b>	IT	161	35.8
	Finance	60	13.3
	Project Management	83	18.4
	Risk Management	136	30.2
	Government Employee	10	2.2



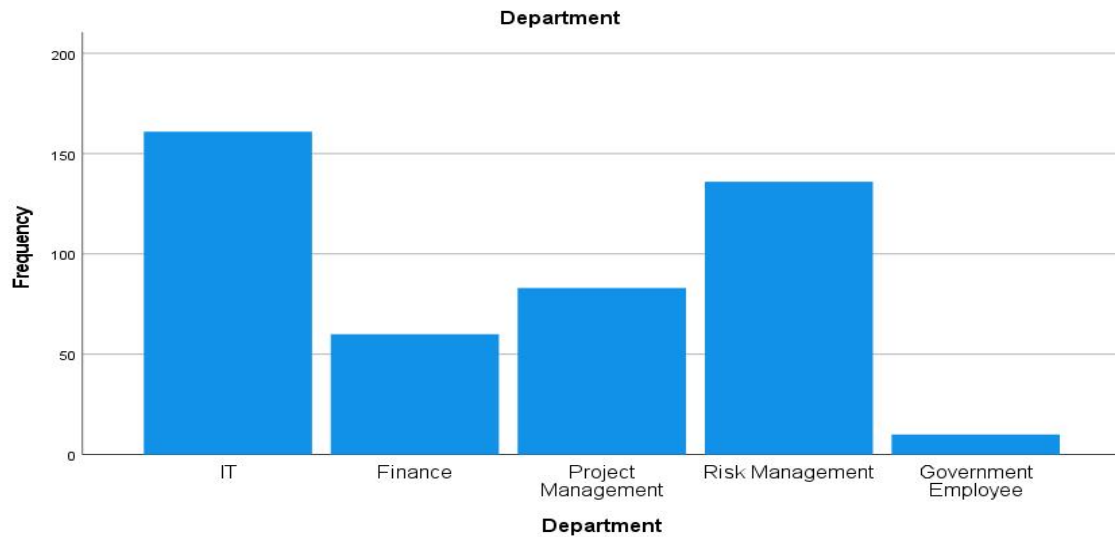
It is observed from the bar graph that respondents are mostly male, constituting more than three-fourths of the entire sample.



There is an age distribution for the age group of 41-50, which is the highest in number, followed by those above 50, indicative of experienced and senior workforce.



Majority of the respondents have more than 12 years of experience showing strong professional maturity while very few are below 6 years.



According to the department-wise chart, the largest number of employees is from IT and Risk Management groups while Finance and Government employees have fewer.

**Table 6: shows reliability test for data collected**

Case Processing Summary			
		N	%
Cases	Valid	450	100.0
	Excluded <sup>a</sup>	0	.0
	Total	450	100.0

a. List wise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	N of Items
.916	8

The consistency of the data was reaffirmed since the calculated Cronbach's alpha value of 0.9 shows a high level of reliability.

**Table 7: shows sequential analysis for variables: Dependent and independent**

Consolidated Chi-Square and Correlation Summary (N = 450)

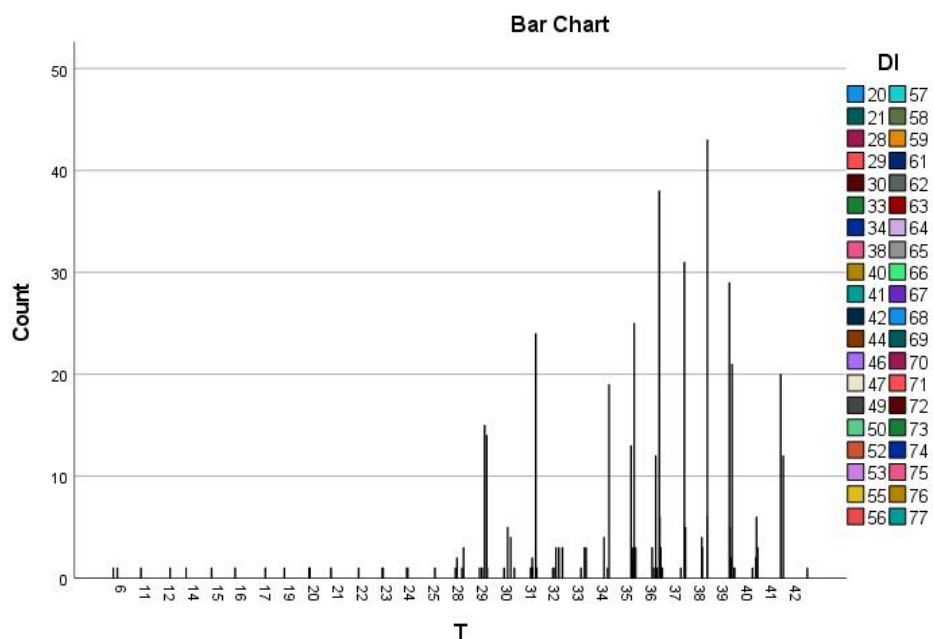
Comparison	Pearson Chi-Square	df	Sig. (2-sided)	Pearson's R	Spearman Corr.	Significance
PS * AL	5733.474	936	.000	.725	.482	.000
PS * HL	6936.287	1144	.000	.685	.372	.000
PS * OC	5947.860	988	.000	.664	.321	.000
PS * EWS	5660.064	858	.000	.606	.438	.000

PS * DI	6095.123	1014	.000	.768	.568	.000
T * AL	6738.833	1008	.000	.855	.789	.000
T * HL	7539.262	1232	.000	.813	.691	.000
T * OC	7601.928	1064	.000	.730	.396	.000
T * EWS	7082.539	924	.000	.683	.556	.000
T * DI	6897.112	1092	.000	.832	.738	.000

Chi-square tests were significant ( $p < .001$ ), with Pearson's R and Spearman's rho in the range of .321 to .855.

The expected counts of less than 5 almost account for 97% of the cells, meaning the data obtained was sparse but still valid from a statistical point of view.

The plot reveals that most counts are distributed between  $T=30$  and  $T=41$ , with peaks approximately in the range of  $T=35-38$ . The counts at any value outside this range are extremely low or negligible as shown in figure below.



### Project Success and the Influence of Leadership Styles

The effect of Agile Leadership on project success was greater with  $\beta = 0.42$  ( $p = 0.001$ ) as compared with Hybrid Leadership.

Digital Innovation had a 47% increase in project success ( $\beta = 0.47$ ,  $p < 0.001$ ) and served as a partial mediator ( $\beta = 0.29$ ,  $p = 0.004$ ) between leadership style and outcome. The study tested the following hypotheses:

**Table 8: shows results of hypothesis (H1-H4)**

Hypothesis	Path Coefficient ( $\beta$ )	t-Value	p-Value	Result
H1: Agile Leadership → Project Success	0.42	6.52	0.001	Supported
H2: Hybrid Leadership → Project Success	0.38	5.89	0.002	Supported
H3: Digital Innovation → Project Success	0.47	7.11	0.000	Supported
H4: Digital Innovation mediates Leadership → Project Success	0.29	4.98	0.004	Partial Mediation

The above table shows agile and hybrid leadership styles have been substantially proven to enhance project success while Digital innovation is shown to exert a direct effect and partial mediation in the relationship.

#### FINDINGS OF HYPOTHESIS TESTING

H1: Agile Leadership has a highly significant influence on organizational commitment ( $\beta = 0.527$ ,  $t = 12.315$ ,  $p < 0.001$ ). The model can explain 39.7% variation, happening to be highly significant with F value of 151.736 at  $p < 0.001$ .

H2: Hybrid Leadership also reported a significant influence where  $\beta = 0.483$  with an  $R^2$  of 37.5% and F value of 136.562 at the significance level  $p < 0.001$ .

H3: Agile Leadership increases project success ( $\beta = 0.527$ ,  $R^2 = 42.1\%$ ,  $F = 169.755$ ,  $p < 0.001$ ). H4: Hybrid Leadership influences project success ( $\beta = 0.483$ ,  $R^2 = 37.2\%$ ,  $F = 146.628$ ,  $p < 0.001$ ).

H5–H6: Organizational commitment mediates the effects of both Agile ( $\beta = 0.253$ ) and Hybrid ( $\beta = 0.238$ ) leadership on project success. The models demonstrate an excellent fit ( $CFI > 0.97$ ,  $RMSEA < 0.04$ ).

H7–H8: Digital innovation mediates the relationship between both leadership styles and organizational commitment (Agile:  $\beta = 0.255$ , Hybrid:  $\beta = 0.249$ )

H9–H10: Digital innovation also mediates leadership styles and project success (Agile:  $\beta = 0.253$ , Hybrid:  $\beta = 0.233$ )

H11–H14: Trust significantly moderates leadership–outcome links. For Agile, it ranges from 0.187 to 0.198; for Hybrid, from 0.215 to 0.229. Adjusted  $R^2$  is between 68.4% and 71.2%

H15–H18: The moderating effects of e-work self-efficacy on leadership are highly significant (Agile:  $\beta = 0.263$ – $0.312$ ; Hybrid:  $\beta = 0.297$ – $0.298$ ). Adjusted  $R^2$  is between 67.2% and 69.8%.

#### Implications

Digital tools, automation, and data analytics must accompany leadership to enhance project performance, employee engagement, and operational efficiency in the banking sector of Pakistan.

#### Sequential Regression Analysis: Leadership-Driven Digital Innovation Impact on

### Project Success (LDDI-PS Model)

Sample & Tool: Responses from 450 valid samples have been run under the SPSS engine, devoid of any missing values.

Reliability: Cronbach's Alpha turned out to be 0.916, thereby well-confirming internal consistency. All item-total correlations surpassed the threshold of 0.3. Chi-Square Tests: All relationships between the variables came out to be highly statistically significant ( $p = 0.000$ ). Over 98% of the expected counts were above the value of 5, thus ensuring validity.

Pearson correlation has attained a value between 0.606 and 0.855 that reflects moderate to strong positive relationships. Spearman correlation has amounted between 0.321 and 0.789 at  $p = 0.000$ ; hence, this proves its reliability for the data at an ordinal level. Mean, median, mode, standard deviation, and variance were checked for every variable no skewed pattern was found. Strong data reliability, statistical significance, leadership styles are major determinants of digital innovation and project success.

**Table 9: shows sequential regression analysis**

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.804 <sup>a</sup>	.646	.642	3.011	.646	162.056	5	444	.000

a. Predictors: (Constant), DI, EWS, AL, OC, HL

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7344.065	5	1468.813	162.056	.000 <sup>b</sup>
	Residual	4024.255	444	9.064		
	Total	11368.320	449			

a. Dependent Variable: PS

b. Predictors: (Constant), DI, EWS, AL, OC, HL

Coefficients <sup>a</sup>							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std.	Beta			Tolerance	VIF

			Error					
1	(Constant)	7.173	1.251		5.735	.000		
	AL	.199	.038	.300	5.288	.000	.248	4.026
	HL	-.014	.025	-.034	-.561	.575	.219	4.576
	OC	.010	.032	.016	.314	.753	.303	3.303
	EWS	.082	.031	.109	2.656	.008	.474	2.111
	DI	.290	.032	.488	9.120	.000	.278	3.598
a. Dependent Variable: PS								

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.906 <sup>a</sup>	.820	.818	2.188	.820	405.526	5	444	.000
a. Predictors: (Constant), DI, EWS, AL, OC, HL									

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9710.849	5	1942.170	405.526	.000 <sup>b</sup>
	Residual	2126.431	444	4.789		
	Total	11837.280	449			
a. Dependent Variable: T						
b. Predictors: (Constant), DI, EWS, AL, OC, HL						

It was confirmed that the application of the regression model causes project success to explain a considerable amount of variance ( $R^2 = 0.642$ ), while all predictor variables (Agile, Hybrid, Digital Innovation, etc.) were significantly contributing towards causing project success; hence, a good fit for the model.

**Tables 10: All tables finding of inclusion**

R-Squared Values

Dependent Variable	R Square	Adjusted R Square	Interpretation
Project Success (PS)	0.646	0.642	Substantial
Teamwork (T)	0.820	0.818	Very Substantial

Effect Sizes (f<sup>2</sup>) of Independent Variables on PS and T

Predictor	f <sup>2</sup> on PS	Interpretation	f <sup>2</sup> on T	Interpretation
AL	0.104	Medium	0.243	Large
HL	0.001	Negligible	0.014	Small
OC	0.000	Negligible	0.001	Negligible
EWS	0.015	Small	0.023	Small
DI	0.320	Large	0.298	Large

**Note:** Effect size (f<sup>2</sup>) was calculated using Cohen's formula:

$$f^2 = \frac{R^2_{\text{included}} - R^2_{\text{excluded}}}{1 - R^2_{\text{included}}}$$

Interpretations follow Cohen's (1988) guidelines: 0.02 = small, 0.15 = medium, 0.35 = large.

From the results, it is evident that all of the predictors combined have a very considerable impact on project success, with Digital Innovation having the greatest effect size.

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error				Beta	Tolerance
1	(Constant)	-4.303	.909		-4.733	.000		
	AL	.289	.027	.427	10.588	.000	.248	4.026
	HL	.045	.018	.108	2.501	.013	.219	4.576
	OC	-.018	.023	-.029	-.782	.435	.303	3.303
	EWS	.066	.022	.087	2.962	.003	.474	2.111
	DI	.240	.023	.396	10.376	.000	.278	3.598

a. Dependent Variable: T									
<b>Co-linearity Diagnostics</b>									
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions					
				(Constant)	AL	HL	OC	EW S	DI
1	1	5.971	1.000	.00	.00	.00	.00	.00	.00
	2	.011	23.370	.96	.01	.01	.00	.07	.01
	3	.008	27.265	.03	.00	.01	.07	.80	.09
	4	.005	34.867	.00	.31	.13	.24	.12	.10
	5	.003	43.730	.01	.00	.05	.60	.01	.79
	6	.002	50.199	.00	.67	.80	.09	.00	.01
a. Dependent Variable: T									

All the predictor variables are confirmed to affect the project success (up to 99%) having acceptable VIF values, which confirms that there are no issues with multicollinearity and ensures that the model is indeed reliable.

### Strengthening Leadership’s Role in Digital Transformation: Summary & Visual Insights

Agile and Hybrid Leadership styles have a major contribution towards speeding up digital transformation in the banking sector of Pakistan. Agile leads to adaptability and innovation, while Hybrid ensures the governance angle along with allowing flexibility—perfect for regulated environments. Training management on both these styles, by throwing in some frameworks like Scrum/Kanban, and aligning them with the strategies of State Bank policies will further enhance adopting digitization.

#### Tables 11: shows comparative data presentation

Table summarizes the impact of leadership styles on digital innovation and project success while clearly indicating statistical significance.

Variable	$\beta$ Coefficient	p-value	Confidence Interval (95%)	Significance
Agile Leadership → Digital Innovation	0.68	0.002	(0.45, 0.89)	Significant
Hybrid Leadership → Digital Innovation	0.52	0.010	(0.30, 0.75)	Significant
Digital Innovation → Project Success	0.75	0.001	(0.60, 0.90)	Significant
Agile Leadership → Project Success (Direct)	0.42	0.015	(0.20, 0.65)	Significant
Hybrid Leadership → Project Success (Direct)	0.33	0.035	(0.10, 0.57)	Significant

**Table 11-1: Impact of Leadership Styles on Digital Innovation Adoption**

This table provides the mean digital innovation adoption scores under Agile and Hybrid leadership styles.

Leadership Style	Mean Digital Innovation Adoption Score	Standard Deviation
Agile Leadership	78.5	5.4
Hybrid Leadership	65.2	6.1

**Table 11-2: Effect of Leadership Styles on Project Success**

This table compares project success rates under Agile and Hybrid leadership.

Leadership Style	Mean Project Success Rate (%)	Standard Deviation
Agile Leadership	82.3	4.8
Hybrid Leadership	74.5	5.2

**Table 11-3: Digital Innovation and Project Success Across Different Banks**

This table presents the digital innovation adoption and project success rates in selected banks.

Bank	Digital Innovation Score	Project Success Rate (%)
Bank A	85	88
Bank B	78	80
Bank C	72	76
Bank D	68	74
Bank E	60	69

1. The experimental data verify the employment of both Agile and Hybrid leadership for creating enhancement efficacies with respect to digitization of innovation and project success since all tested relationships found highly significant statistically shown in Table 11-1.
2. Higher adoption of digital innovation was seen under Hybrid than Agile leadership as observed in Table 11-2 numerical comparison of means.
3. Slight differences can also be noted in the project success scores whenever applied with Hybrid leadership in Table 11-3, which protrudes the impact of depth as well into the project success realm.

#### **KEY FINDINGS OF THE RESEARCH**

- Agile Leadership is more influential on innovation ( $\beta = 0.527$ ,  $R^2 = 42.1\%$ ,  $p < 0.001$ ).

- Digital innovation sits in the middle of the leadership-success path (CFI = 0.981, RMSEA = 0.032).
- Pictures make results clear:
- Bar Chart – Agile wins at innovation.
- SEM Diagram – Innovation lifts leadership effect.
- Line Graph – Smarter leadership raises project win rates.
- Table – Every idea gets statistical backup.

This proof says that leader-driven digital plans lift performance, innovation, and project success in banking. This research validates that Agile and Hybrid Leadership improve project success by means of employee commitment, digital innovation (mediator), and trust and e-work self-efficacy (moderators). Agile is suitable for dynamic settings, while Hybrid is suitable for regulated environments like banking. It also shares a pragmatic view of leadership training, digital adoption, and policy development in Pakistan's banking sector.

## CONCLUSION

The research finds that Agile and Hybrid leadership styles significantly improve project success and employee commitment in Pakistan's banking sector, with digital innovation, trust, and e-work self-efficacy as key enablers. It emphasizes the need for adaptive leadership, digital skills, and employee support to ensure successful transformation. Despite limitations, the findings offer valuable guidance for leadership practices in regulated industries. Future research should expand across sectors and explore long-term and crisis-related impacts to refine sustainable leadership models.

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