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From Cash to Cashless Digital Payment Transformation and Risk Management in the Banking Sector: Evidence from Bangladesh

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ABSTRACT

The change of digital payments needs proper technology, qualified personnel, and management of operational risks. This paper will analyze the linkages between technological preparedness, employee digital competency, digital transformation of payment, effectiveness of risk management and performance of payment operation in Bangladesh. The cross-sectional study design takes 470 records of bank employees and five reflective constructs as measured by 25 agreement statements. The partial least squares structural equation modelling considers seven direct relationships, specific indirect effects and predictive performance. Transformation has a positive relation with technological readiness and employee digital competency, with coefficients of 0.398 and 0.336 respectively. Risk management effectiveness is positively related to transformation at 0.382. Payment performance has a stronger direct relationship with risk management effectiveness, with 0.463, as compared to transformation with 0.225. The model accounts 30.4%, 36.8% and 37.8 % of transformation, risk management, and performance variance, respectively. All the seven hypotheses are statistically supported. The risk management relates to indirect transformation-performance in a positive and significant way. Repeating cross-validation gives positive predictive relevance to all endogenous indicators, with only minor improvements compared to linear regression. The results endorse integrated investment in technological capacity, staff development and payment controls.

INTRODUCTION

Background and Research Problem

The shift to the use of digital payments as opposed to cash transforms the operational requirements of banks. A transaction that used to rely on a physical process can more and more be executed with electronic instructions and automated validation and through digitally captured settlement processes. This change impacts the transaction processing, service delivery, staff responsibilities, and exception management. Banks need to organize these operations and be accurate and reliable in access (Teixeira & Reis, 2022). The key management issue is the circumstances in which digital payment transformation is linked to the improved performance of the operations. The use of technology is not sufficient since employees have to make sense of procedures, and risk controls have to work within the transaction to occur.

Online payment transactions include mobile banking, internet banking, cards, QR payments, and electronic fund transfers. Every channel opens up the prospects to minimize manual processing and enhance payment service accessibility. The latter, however, both bring operation dependencies. The availability of the system, correct access, proper instructions, and handling of irregular transactions will determine whether a digital service will be used satisfactorily (Mhlanga, 2023). An organisation can increase its digital channels, but maintain disjointed workflows or lack of ability among staff. Therefore, the scope of change ought to be analyzed and the resources and controls that sustain normal payment activity.

The organisational environment to be studied is the banking industry in Bangladesh. The research analyzes the employees who are operating in various types of banks, models of banks, operations in various functions, and locations. The given environment allows evaluating the digital payment transformation through the lens of the personnel that know about payment operation and control (Kamil, 2020). The analysis fails to consider the sample of employees as a representative census of the national banking sector. Rather, it reviews the relationships existing in the records they made and looks at its implications in management decisions in the banking units.

Technological readiness explains how perceived to be suitable, adequate and ready technological resources would meet digital payment requirements. Employee digital competency refers to the perceived knowledge and practical competence of staff engaged in performing pertinent tasks. These abilities may evolve asymmetrically (Afreen, 2020). A unit can also have adequate technological resources but incompetent employees who are unable to handle routine issues. The other option is that the skilled employees will have to contend with systems which are not properly designed to handle the workloads on transactions. In assessing the relationship between technological capacity and transformation, as well as the relationship between staff capability and transformation, the analysis can make the difference between the two constructs (Hakizimana *et al.*, 2023).

Risk management efficacy relates to the identification,

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limitation, detection and the response of risks relating to the digital payments. These operations link the growth of payments and consistency of operations (Teker *et al.*, 2022). Digital processing can leave records that can help in oversight; however, more processing can also bring about more exposure to mistakes or anomalies. The interconnection of transformation and good risk management is thus an issue that needs to be empirically studied. The end result of the model is the payment operational performance (Alexander & Karametaxas, 2021). It gets the employees ratings about timeliness of processing, accuracy, workload efficiency, reliable service, and the overall operational standards.

Research Gap and Analytical Contribution

A limited focus on cashless banking can be synonymous with progress with the provision of electronic channels (Banna & Alam, 2021). The outcome of such an assessment does not answer the question of the occurrence of digital workflow implementation in the regular working process and the presence of risks within it. The current research approach helps to overcome this analytical issue by providing a model based on the relationship between organisational capabilities, transformation, risk management, and performance (Suleman, 2023). The model has seven hypothesised paths and a number of additional indirect relationships. It contributes to breaking the direct correlation of transformation with performance and the correlation that processes statistically via risk management effectiveness.

The paper also addresses the question of the usefulness of the proposed relationships beyond those of the observed records. The estimated sample relationships are explained by the use of explained variance and statistically significant coefficients. Predictive assessment is the analysis of the capacity the model has of forecasting withheld responses of indicators. When putting these views together, it makes a more objective assessment (Saputra *et al.*, 2022). A model might allow theoretically significant relationships, but provide a relatively small amount of predictive power. The analysis thus reports the quality of measurement, structural estimates, effect sizes, indirectness of relationships, overall effects and repeated cross-validation findings within a single empirical report.

Objectives and Research Questions

The former is to check the connections between technological preparedness and employee digital competency with digital payment transformation and efficiency of risk management. The second goal is to determine the links between transformation and risk management performance and payment operational performance (Tepegöz, 2022). The third aim is to assess the indirect relationships between organisational capabilities and performance and predictive validity of the structural model. These goals are based on the given employee-reported measures, as opposed to the national adoption rates of payment and accounting indicators of bank profitability.

The analysis is conducted based on two research questions. To begin with, what is the relationship between technological preparedness and employee digital competency and the digital payment transformation and effectiveness in risk control in the banking units evaluated by employees? Second, what is the relationship between transformation and risk management effectiveness and payment operational performance, and the indirect relationship between risk management and payment operational performance? The findings provide answers to these questions on the basis of the reported outputs of the analysis. The resultant interpretation is expected to explain management concerns whilst maintaining the difference between cross sectional association and illustrated organisational change.

Conceptual Background and Hypothesis Development

Digital Payment Transformation as Organisational Change

Digital payment transformation refers to the integration of electronic mediums in the normal payment operations. It encompasses the heavy dependence on online delivery, substituting manual procedures, and adjusting workflows (Li *et al.*, 2022). This definition focuses more on organisational usage, as opposed to technological ownership. Without employees automating work using manual processes, a bank would not realize significant transformation by acquiring an application. On the other hand, a unit may create large digital workflows where systems, procedures and staff responsibilities interact in a coherent manner (Ozili, 2021). Transformation is thus measured as a state of an organisation as manifested in a number of of related statements.

The model has a capability perspective that offers the organising logic. Technological resources confer the ability to undertake transactions and employee competency confer the ability to utilize that ability. Risk management provides the organisational control in which the payment activities can be reliable (Nizam, 2022). These two are conceptually different yet related. Their synthesis indicates that change has the potential to add to performance in more than a single path. The framework thus defines a direct relationship between transformation and performance as well as an indirect relationship via effective risk management (Romdhane, 2021).

Technological Readiness and Transformation

Technological preparedness relates to compatibility of the availed systems with the workload and payment facilities. Preparedness to expansion is also included in ready-ness. With a dependable technological capacity, a unit can incorporate electronic processing in routine activities with less limitations of the operations (Rehman *et al.*, 2022). Proper systems can facilitate regular implementation and lessen the aspect of manual workarounds. Those mechanisms offer a rationale to anticipate that there is

a positive correlation between preparedness and change. Perceived readiness is however not a direct measure of architecture quality, downtime and processing capacity, but a record of employee's assessment of the overall operations state (B. S. & Goveas, 2023).

H1: Technological readiness positively influences digital payment transformation.

Employee Digital Competency and Transformation

Digital competency in employees embodies knowledge, use of systems, deployment of common problem-solving skills, flexibility and general competence (Kabir *et al.*, 2021). These features are important since digital workflows rely on human resources with the ability to perform tasks properly and identify those situations when it is necessary to escalate. Skilled workers are able to comprehend payment guidelines, manipulate pertinent systems, and adapt to process modifications (Mishchenko *et al.*, 2022). They can also decrease reliance on informal workaround that maintains manual routines. The framework thus anticipates that there will be a positive correlation between competency and the degree to which digital channels become embedded in unit processes.

H2: Employee digital competency positively influences digital payment transformation.

Technological Readiness and Risk Management Effectiveness

This is because digital payment controls require the availability of technological resources to facilitate identification, verification, monitoring, and response (Sitorus, 2023). Appropriate systems have the potential of giving usable transaction information and enable control procedures to run within acceptable service expectations. Poor capacity could lead to delays, poor records or increased dependency on manual interventions (Khalilzadeh *et al.*, 2020). These deliberations suggest that there is an upward association between preparedness and effectiveness of risk management. The correlation does not presume that technology alone removes payment risks. It hypothesizes that proper technology can be related to the employee feeling of a greater control performance (Farah *et al.*, 2022).

There is an immediate readiness-risk management route that accompanies the route through transformation. This specification acknowledges that even incomplete digital integration; technological ability can support controls (Mulyati, 2021). The estimated direct coefficient is the relationship that is left behind when employee competency and transformation are introduced into the risk management equation. A smaller direct relationship would imply that readiness has a direct relationship to the quality of control in part by integrating digital (Hidayah *et al.*, 2023). It is an interpretation that is based on the model structure and should not be mixed with evidence of a temporal sequence.

H3: Technological readiness positively influences risk management effectiveness.

Employee Digital Competency and Risk Management Effectiveness

Risk management involves having employees who are capable of identifying suspicious conditions and acting in line with the correct procedures (Ong & Chong, 2023). Staff ability can affect how alerts are interpreted, the thoroughness of transaction verifications and reaction to a malfunctioning. System expertness is also a routine that aids proper performance of payment tasks (Khando *et al.*, 2022). When employees know their role in the company, they can be able to find issues earlier when they can be resolved easily. These mechanisms imply that competency is directly related to the perceived effectiveness of digital payment controls, without regards to its association with transformation (Srouji & Torre, 2022).

H4: Employee digital competency positively influences risk management effectiveness.

Transformation and Risk Management Effectiveness

Payment activity can be made more regularly documented and have more insight into the workflows with the help of digital integration. Standardised processing can help detect anomalous transactions and help decrease the variability brought about by manual processing (Adamu Ahmed *et al.*, 2022). Risk control can be included in digital practices, transforming might be linked to increased effectiveness in control. But increased digitalisation also brings in new vulnerabilities and heightens reliance on systems in operations. The net relationship is thus tested, not supposed to be a positive relationship everywhere in all organisational circumstances (Moon *et al.*, 2022).

The given hypothesis relates to the positive correlation between the control variable in the sample. This does not mean that there are no incidents in digitally advanced units (Rifa Nurul Aulia *et al.*, 2023). Perceived identification, limitation, detection and response capacity are captured by risk management effectiveness. Even a unit with more controls would result in high exposure in case the transaction activity is high or complex. The framework differentiates between the performance and complete removal of risk, and the rate of verified losses. It is this difference which causes a positive coefficient not to be taken as an indication of an actual decrease in fraud (Teixeira & Reis, 2022).

H5: Digital payment transformation positively influences risk management effectiveness.

Transformation and Payment Operational Performance

Digital processing can enhance operation performance, where repetitive manual activity becomes minimized, and payment processes become more uniform. Integration can also be used to help it to handle more work without necessarily increasing physical processing (Mhlanga, 2023). These possible returns give a direct reason as to why change is associated to performance. Nevertheless, more depends on digital can lead to the interruption of services in case of system or process dysfunction. The

positive relationship postulated is thus an averaging relationship in the model, assuming that the risk management effectiveness is included as a second predictor of performance (Afreen, 2020).

Quality in performance construct consists of timeliness, accuracy, efficiency, dependability, and the general standards. These dimensions give a more comprehensive evaluation than that of transaction speed. Payment unit with high speed but frequent error would not necessarily give a good performance in the entire construct (Kamil, 2020). There is also an option of including an independent risk management path that will enable the analysis to evaluate the whether there is an additional relationship between control effectiveness and this broader outcome. The direct transformation coefficient is therefore the part of the estimated relationship that is that which is not passed on statistically by the risk management (Hakizimana *et al.*, 2023).

H6: Digital payment transformation positively influences payment operational performance.

Risk Management Effectiveness and Payment Operational Performance

Risk management is capable of facilitating performance by preventing errors and detecting anomalies as well as providing an organised response in the event of errors. Such operations maintain a consistent service and minimize inconvenience in handling transactions (Teker *et al.*, 2022). Control procedures could take time, though the operation delays incurred could be far more significant when compared to the controls. The framework also anticipates that there is a positive correlation between risk management effectiveness and payment performance. The offer in question is the quality of control activity and not the number of formal rules or levels of approval (Alexander & Karametaxas, 2021).

H7: Risk management effectiveness positively influences payment operational performance.

Conceptual Framework and Indirect Pathways

The theoretical framework has two exogenous variables, technological preparedness and workforce digital proficiency. Risk management effectiveness and digital payment transformation are in the middle, whereas the final endogenous construct is payment operational performance (Banna & Alam, 2021). The main hypotheses are put into practice by seven directed paths. The model also allows certain indirect correlation between readiness and competency and risk management via transformation (Suleman, 2023). Other pathways relate these capabilities to performance by transformation, risk management and the sequential combination of the two intermediate constructs.

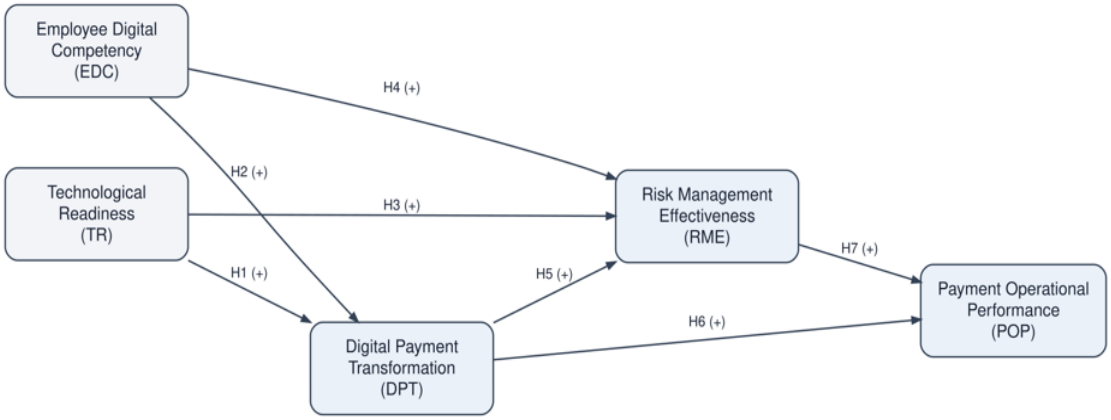


Figure 1: Conceptual framework of digital payment transformation and operational performance

The parallel analyses are not extra primary hypotheses but are additional analyses. They are aimed at explaining the manner in which the given model spreads associations among the related organisational conditions (Saputra *et al.*, 2022). Positive transformation-risk management-performance pathway would be a sign that transformation-performance relationship would have a statistically identifiable control component. Favorable consecutive processes originating in the readiness or competency would be aligned with an expansive capability chain (Tepegöz, 2022). Such interpretations are conditional to the cross-sectional model, and do not determine that the intermediate constructs pre-change performance.

MATERIALS AND METHODS

Research Design and Analytical Scope

The research design is quantitative cross-sectional and aims to investigate the relationships between five constructs reported by employees (Li *et al.*, 2022). The records of the analytical sample are 470. The individual bank employee is the unit of observation; and the questionnaire requests each employee to evaluate the same branch or department or team of the operations across the instrument. This difference determines the proper degree of inference. The results describe employee perceptions of organisational conditions. They are not independently valid unit-level measures or a longitudinal

assessment of the shift to digital versus cash payments (Ozili, 2021).

The research protocol defines the employees who are at present working in a bank in Bangladesh. Eligibility: one must have at least six months experience in the current unit, must have participated in digital payments or similar operational and control activities and must be familiar enough with the payment operations of the unit (Nizam, 2022). These criteria are used to select respondents who are at a position to evaluate the statements in the questionnaire. The materials fail to record the number of invitations, period of recruitment, and response rate attained. Based on this, no response-rate estimate or the probability sampling statement is attributed to the analytical sample.

Questionnaire and Construct Operationalisation

Questionnaire has 25 measurement statements, eligibility screening, respondent and organisational information. There are five indicators to each construct. The assessment of the readiness is done by means of adequacy, appropriateness, workload adequacy, preparedness to grow, and general preparedness (Romdhane, 2021). Employee digital competency comprises knowledge, competent system usage, habitual problem-solving, flexibility and broad competence. The transformation of digital payments focuses on the everyday digital activity, digital dependence, manual processing substitutes, workflow adjustment, and general advancement of cashless operations. These definitions are in line with the definitions laid down in the conceptual framework.

The effectiveness of risk management can be gauged in terms of risk identification, restricting risks based on controls, finding of irregularities, reaction to incidences and effectiveness (Hakizimana *et al.*, 2023). Payment operational performance includes anticipated service time, transactional accuracy, efficiency of workload, reliable customer service and general standards of operation. All constructs are given reflectively. Measurement model presupposes that the underlying organisational perception is realised by its respective statements. This assumption informs the judgment of loadings, internal consistency, convergent validity and discriminant validity and thereafter structural relationships are interpreted.

The tool is based on the five-point scale of agreement, with strongly disagree to strongly agree. Responses will be the current unit of the employee in the past six months. An inability to assess choice is not on the agreement scale but is identified as missing, not neutral or zero. The item descriptive report indicates that the number of observations per indicator is 470. This provides full coverage of items in analytical products, but the materials provided do not give an indication of whether completeness came as a result of collection processes or exclusions, or preprocessing. The analysis is not said to be using any undocumented missing-data method.

Respondent Characteristics and Sample Interpretation

The contextual variables include gender, age, education, type of bank, banking model, work function, position, banking experience, current-unit tenure, location, involvement in payment, recent training and payment channels. They are aimed at explaining the structure of the records of analysis (Tepegöz, 2022). The structural equations reported include them as control variables. The payment channels are documented based on a variety of selections; thus, its percentages may be over 100 percent cumulatively. All 470 records are a denominator used by other demographic percentages. Categories with zero frequency which are missing are not presented.

The sample consists of a variety of banking functions and types of institutions, enlarging the operational views represented. However, national representativeness is not determined by differences in the characteristics of the respondents. The units are not provided with the number of banks, branches and employees. The possible interdependence among the respondents belonging to the same institution is thus immeasurable (Ozili, 2021). The analysis preserves interpretation at employee levels and unreported clustering is considered to be a constraint. There is no claim on group differences in terms of bank type, location, training, or function since there are no tests reported on the outputs.

Measurement and Structural Model Assessment

Partial least squares structural equation modelling is used to estimate the reflective measurement model and seven structural paths specified. Measurement assessment takes into consideration the outer loadings, Cronbach alpha, rho A, composite reliability, and average variance extracted (Li *et al.*, 2022). A value of AVE more than 0.50 means that the construct includes more than a half of the average variance of its indicators. HTMT ratios and their bootstrap confidence intervals assess discriminant validity. Indicators that have moderately lower-loading are not deemed as removed to boost a reliability measure in the complete construct assessment.

Structural evaluation employs inner variance inflation condition to study predictor collinearity. Standardised path coefficients explain the direction and strength of the relationships that are being modelled. Uncertainty is assessed with the help of bootstrap standard errors and 95% confidence intervals (Nizam, 2022). The values of the p are reported approximations of normality based on the coefficient/standard-error ratios. They are reported in a transparent manner instead of reported as empirical bootstrap p values. The provided outputs lack the number of bootstrap draws, the version of software package version, and a random seed. Such settings are not calculated out of the reported confidence intervals.

R2 and adjusted R2 are used to determine the explained variance of the three endogenous constructs. The effect sizes indicate the incremental explanatory power of predictors. Specific indirect effects analyse products of coefficients along particular pathways and total effects assimilate every directed pathway amid the constructs of relevance (Romdhane, 2021). The positive confidence interval assists in an association, but is a not temporal

mediation analysis. The specified model lacks direct readinessperformance and competencyperformance paths and, thus, their overall associations with performance are passed on completely via the intermediate constructs.

Predictive Assessment and Participant Protection

Ten-fold cross-validation is done ten times in predictive assessment. The endogenous indicators both contain 4,700 held-out predictions, which represent repeated predictions on 470 records instead of other participants. The process is referred to as the first antecedents in analysis output. It is thus a measure of prediction based on the initial antecedent information within the outlined pathway structure. Q2 predict evaluates performance in comparison to a basic prediction standard. Root mean squared error and mean absolute error are used to compare predictions of PLS and a linear model. Favorable predictive relevance and comparative error decreases are considered differently (Rehman *et al.*, 2022).

A statement of voluntary consent and participant information is contained in the questionnaire. It does not include names, account details, passwords or confidential incident records and explains about reporting in aggregate form. These clauses outline the instrument approach towards privacy and participation. The documentation provided lacks formal ethics approval, consent implementation, or data-retention procedures (B. S. & Goveas, 2023). There is no institutional approval identifier proposed. This reporting boundary keeps a line of separation between the safeguards outlined in the questionnaire and those that were independently recorded in the field during work.

RESULTS AND DISCUSSION

Respondent and Organisational Characteristics

The sample of analysis has 470 records. The percentages of male respondents are 72.98%, female respondents are 25.74% and the rest are 1.28%. The maximum age group is 25-34 years with an age of 37.87%, and the 35-44 years age group takes second place at 32.13%. The majority of the respondents are masters' holders. The sample is made up of 69.15% of the employees of the private commercial banks. The most popular model of banking is conventional banking. The distributions are used to show what the records that are used to estimate the model are and what the results need in terms of interpreting the findings.

Table 1: Respondent and Organisational Characteristics

Characteristic	Category	n	%
Gender	Male	343	72.98
Gender	Female	121	25.74
Gender	Another identity	1	0.21
Gender	Prefer not to disclose	5	1.06
Age Group	Below 25 years	28	5.96
Age Group	25–34 years	178	37.87
Age Group	35–44 years	151	32.13
Age Group	45–54 years	89	18.94
Age Group	55 years or above	24	5.11
Education	Diploma or equivalent	4	0.85
Education	Bachelor's degree	139	29.57
Education	Master's degree	322	68.51
Education	Doctoral degree	5	1.06
Bank Type	State-owned commercial bank	101	21.49
Bank Type	Private commercial bank	325	69.15
Bank Type	Foreign commercial bank	28	5.96
Bank Type	Specialised bank	16	3.40
Banking Model	Conventional banking	300	63.83
Banking Model	Islamic banking	99	21.06
Banking Model	Conventional with Islamic window	71	15.11
Work Function	Branch operations/customer service	154	32.77
Work Function	Digital banking/payment operations	78	16.60
Work Function	IT/cybersecurity	85	18.09
Work Function	Risk management/compliance	65	13.83
Work Function	Internal audit	36	7.66

Work Function	Management/supervision	52	11.06
Position	Officer or equivalent	152	32.34
Position	Senior officer or equivalent	179	38.09
Position	Manager or equivalent	114	24.26
Position	Senior management	25	5.32
Banking Experience	Less than 1 year	10	2.13
Banking Experience	1–3 years	74	15.74
Banking Experience	4–6 years	101	21.49
Banking Experience	7–10 years	109	23.19
Banking Experience	More than 10 years	176	37.45
Unit Tenure	6–11 months	65	13.83
Unit Tenure	1–3 years	215	45.74
Unit Tenure	4–6 years	110	23.40
Unit Tenure	More than 6 years	80	17.02
Unit Location	Metropolitan area	215	45.74
Unit Location	Other urban area	148	31.49
Unit Location	Semi-urban area	73	15.53
Unit Location	Rural area	34	7.23
Digital Payment Frequency	Daily	313	66.60
Digital Payment Frequency	Several times per week	116	24.68
Digital Payment Frequency	Weekly	30	6.38
Digital Payment Frequency	Less frequently	11	2.34
Training 12mo	Digital payment operations only	85	18.09
Training 12mo	Payment risk/cybersecurity only	56	11.91
Training 12mo	Both	236	50.21
Training 12mo	Neither	93	19.79
Digital payment channels	Mobile	359	76.38
Digital payment channels	Internet	407	86.60
Digital payment channels	Cards	336	71.49
Digital payment channels	QR	261	55.53
Digital payment channels	EFT	407	86.60
Digital payment channels	Other	21	4.47

Note: N = 470. Payment channels permit multiple selections; channel percentages do not sum to 100%.

Table 1 has significant representation among those employees that have direct operational involvement. Branch operations and customer service take 32.77% of the respondents and digital banking and payment operation take 16.60%. IT and cybersecurity (18.09%), risk management and compliance (13.83%), internal audit (7.66%) and management/supervision (11.06%) make their contribution. The sample is composed of officers and senior officers (70.43%). The 37.45% constitutes employees who are above ten years of banking experience. These features indicate the combination of the routine transaction knowledge and control-related opinions in the records of the analysis.

The urban units, including metropolitan respondents, are 77.23%. The rural units constitute 7.23% and this restricts the scope of the findings to describe the situation of rural banking. They report participating in digital payment activities every day (66.60%), and several times a week (24.68%). Fifty percent of the respondents claim training on payment operations and payment risk or cybersecurity as happening in the previous year. The 86.60% each choose internet banking and electronic fund transfer. These contextual pointers do not determine the transaction shares that are in each channel.

Item Distributions and Construct Descriptions

Measurement-item range is between 3.091 and 3.379 on the five-point scale. The means show that there is moderate agreement on the whole, and there is great variation about each means. The standard deviations are 1.148-1.288. Each item falls into the entire range of response (one to five). The skewness has been a bit negative with excess kurtosis being negative (Kabir *et al.*, 2021). The descriptive pattern does not show that there is a concentration of all responses in the highest category. It rather depicts a wide spread of employee ratings on the contracted scale of assessment.

Table 2: Descriptive Statistics of Measurement Items

Item	Mean	SD	Skewness	Excess kurtosis
TR1	3.100	1.187	-0.087	-0.870
TR2	3.298	1.197	-0.254	-0.742
TR3	3.200	1.198	-0.181	-0.782
TR4	3.315	1.230	-0.224	-0.902
TR5	3.160	1.223	-0.146	-0.954
EDC1	3.091	1.235	-0.045	-0.911
EDC2	3.245	1.212	-0.247	-0.836
EDC3	3.221	1.180	-0.162	-0.794
EDC4	3.379	1.199	-0.308	-0.778
EDC5	3.123	1.240	-0.067	-0.994
DPT1	3.257	1.209	-0.149	-0.858
DPT2	3.306	1.215	-0.188	-0.893
DPT3	3.270	1.190	-0.131	-0.851
DPT4	3.360	1.217	-0.173	-0.951
DPT5	3.228	1.183	-0.076	-0.876
RME1	3.123	1.226	-0.139	-0.829
RME2	3.285	1.148	-0.166	-0.772
RME3	3.166	1.189	-0.140	-0.824
RME4	3.317	1.241	-0.310	-0.824
RME5	3.174	1.184	-0.102	-0.864
POP1	3.157	1.227	-0.122	-0.910
POP2	3.340	1.195	-0.191	-0.841
POP3	3.249	1.213	-0.155	-0.874
POP4	3.349	1.183	-0.206	-0.832
POP5	3.228	1.288	-0.112	-1.081

Note: N = 470 for every item; all observed response ranges are 1–5.

Table 2 shows EDC4, relating to the adjustment to the changes in the procedures, has the highest mean of 3.379. With regard to the knowledge that the employees need, EDC1 is the lowest in mean, 3.091. Such averages characterize individual statements and they should not be seen as statistically tested differences between competencies. In technological preparedness, service expansion preparedness scores an average of 3.315. In the performance, reliable service gets 3.349. General trend indicates that there are both positive and negative opinions about the sample and does not imply a consistent acceptance of digital payment capability.

Measurement Model Quality

The evidence presented in the measurement outputs of the five constructs demonstrates that there are an acceptable internal consistency and convergent validity. Cronbach's alpha ranges from 0.875 to 0.892, rho_A from 0.883 to 0.893, and composite reliability from 0.875 to 0.892. The average variance extracted is in the range of 0.586 to 0.623. The values show that the indicators have a significant commonality with the constructs that they measure. The test facilitates the interpretation of the structural paths and does not compromise between the reliable measurement and validity of the causal claims.

Table 3: Measurement Model Assessment

Construct	Item	Loading	Alpha	rho A	CR	AVE
TR	TR1	0.715	0.883	0.889	0.882	0.603
TR	TR2	0.814	—	—	—	—
TR	TR3	0.761	—	—	—	—
TR	TR4	0.892	—	—	—	—
TR	TR5	0.682	—	—	—	—
EDC	EDC1	0.816	0.875	0.883	0.875	0.586
EDC	EDC2	0.776	—	—	—	—

EDC	EDC3	0.674	—	—	—	—
EDC	EDC4	0.877	—	—	—	—
EDC	EDC5	0.661	—	—	—	—
DPT	DPT1	0.740	0.886	0.888	0.886	0.610
DPT	DPT2	0.829	—	—	—	—
DPT	DPT3	0.722	—	—	—	—
DPT	DPT4	0.823	—	—	—	—
DPT	DPT5	0.786	—	—	—	—
RME	RME1	0.790	0.889	0.891	0.890	0.618
RME	RME2	0.815	—	—	—	—
RME	RME3	0.761	—	—	—	—
RME	RME4	0.814	—	—	—	—
RME	RME5	0.748	—	—	—	—
POP	POP1	0.802	0.892	0.893	0.892	0.623
POP	POP2	0.821	—	—	—	—
POP	POP3	0.730	—	—	—	—
POP	POP4	0.809	—	—	—	—
POP	POP5	0.782	—	—	—	—

Note: Reliability and AVE values appear on the first row of each construct. CR = composite reliability.

Table 3 indicates an outer loading of between 0.661 and 0.892. TR5, EDC3, and EDC5 fall below 0.70, with loadings of 0.682, 0.674, and 0.661 respectively. These indicators will be stored in the reported model. Their constructs continue to surpass the AVE threshold of 0.50 and are satisfactorily internally consistent. The coverage of overall readiness, routine problem solving, and overall competency are maintained through retention. The other indicators have a loading above 0.70. This trend justifies the measurement specification without suggesting that each indicator has the same strength.

Table 4: HTMT Ratios and Bootstrap Confidence Intervals

Construct pair	**HTMT**	**Lower 95% CI**	**Upper 95% CI**
TR / EDC	0.128	0.061	0.230
TR / DPT	0.438	0.345	0.526
TR / RME	0.339	0.246	0.430
TR / POP	0.252	0.155	0.346
EDC / DPT	0.385	0.293	0.473
EDC / RME	0.425	0.337	0.507
EDC / POP	0.303	0.206	0.396
DPT / RME	0.545	0.467	0.618
DPT / POP	0.475	0.392	0.553
RME / POP	0.585	0.511	0.656

Table 4 indicates that the ratios of HTMT are between 0.128 and 0.585. All the values are less than 0.85, and all the upper confidence limits are less than a unit. The greatest ratio of HTMT is between risk management effectiveness and performance. These constructs are substantively interrelated, but the results of the discriminant-validity indicate that they should be treated differently in the model. The lowest ratio is that of readiness and competency. The evidence, however, does not indicate that the five scales are just the different versions of the underlying perception. Nor does it alone exclude common response patterns throughout the questionnaire.

Table 5 records construct means of 3.212 -3.284, the highest mean was in digital payment transformation. Construct standard deviations are about a scale point. Risk management effectiveness and payment operational performance have the highest reported construct correlation of 0.520. The correlation between transformation and risk management is 0.484 and that of performance is 0.423. The correlation between Readiness and competency is relatively weak and it is 0.111. These

Table 5: Construct Descriptive Statistics and Correlations

Construct	Mean	SD	TR	EDC	DPT	RME	POP
TR	3.214	0.996	1	0.111	0.388	0.300	0.224
EDC	3.212	0.991	0.111	1	0.339	0.375	0.268
DPT	3.284	0.997	0.388	0.339	1	0.484	0.423
RME	3.213	0.997	0.300	0.375	0.484	1	0.520
POP	3.265	1.020	0.224	0.268	0.423	0.520	1

Note: N = 470. Correlations follow the descriptive construct summaries reported in the workbook.

correlations are used to describe the relationship between the reported construct summaries, and are not considered to take the place of the conditional relationships estimated by the structural model.

Structural Collinearity and Direct Relationships

The factors of inner variance inflation lie between 1.012-1.320. These values suggest that there is low collinearity between the predictors in each of the endogenous equation. The estimates do not seem to be relying on extreme overlap among readiness, competency, and transformation. The low collinearity is an indicator of the interpretable conditional coefficients reported (Farah *et al.*, 2022). It does not prove that variables are not omitted or there is the influence of common methods. The structural findings then should be construed along with the cross-sectional design and the employee-perception foundation of the measurement.

Table 6: Structural Model Collinearity Assessment

Predictor	Outcome	Inner VIF
TR	DPT	1.012
EDC	DPT	1.012
TR	RME	1.181
EDC	RME	1.133
DPT	RME	1.320
DPT	POP	1.307
RME	POP	1.307

Table 6 indicates that the VIF of transformation predicting the effectiveness of risk management is the highest at 1.320. Both VIFs of the two predictors of transformation are 1.012. Transformation and risk management each have a VIF of 1.307 in the performance equation. The values of these are consistently low and do not give any evidence that the estimated paths are unstable due to extremely redundant predictor information. The evaluation is associated with the structural predictors incorporated. It is not a diagnostic test of the possible measurement or sampling biases.

Table 7: Direct Effects and Hypothesis Testing

Hypothesis and path	β	SE	t	p	95% CI
H1 TR → DPT	0.398	0.045	8.844	<0.001	0.310–0.483
H2 EDC → DPT	0.336	0.042	7.970	<0.001	0.252–0.418
H3 TR → RME	0.141	0.050	2.828	0.0047	0.044–0.241
H4 EDC → RME	0.262	0.047	5.554	<0.001	0.169–0.355
H5 DPT → RME	0.382	0.053	7.210	<0.001	0.278–0.484
H6 DPT → POP	0.225	0.052	4.319	<0.001	0.123–0.326
H7 RME → POP	0.463	0.051	9.112	<0.001	0.362–0.562

Note: All hypotheses are supported. p values use the reported normal approximation; SE and intervals derive from the reported bootstrap outputs.

H1 and H2 are supported by table 7. The transformation coefficient of transformation is positively associated with technological readiness with a confidence interval value between 0.310 and 0.483. The coefficient of competency of the employees is 0.336, and the interval is 0.252 to 0.418. The p values are less than 0.001. The point estimate of readiness is larger, but a statistical test of the difference between the two coefficients is not reported. The results determine that both the constructs of ability possess positive conditional correlations with transformation in

the given model.

It also supports H3, H4 and H5. Risk management is linked to readiness at 0.141, competency at 0.262 and transformation at 0.382. The readiness path has a p value of 0.0047 and an interval from 0.044 to 0.241. The competency and intervals of transformation are also positive. The transformation coefficient has the highest point estimate of the three predictors of risk management. This tendency is aligned with the correlation between the already existing digital workflows and the perceived control effectiveness on the one hand and independent technological and employee capability factors on the other hand.

In the performance equation, H6 and H7 are supported. The coefficient of transformation is equal to 0.225 and the confidence interval of transformation is 0.123 to 0.326. The coefficient of risk management is 0.463 and its range is 0.362 to 0.562. The two relationships are positive and significant. The risk management point estimate is about twice the transformation estimate. In this kind of a comparison, the relative magnitude of the observed coefficients is determined but does not prove a tested difference. The outcome guides the focus to control effectiveness as a significant correlate of operational performance in the model.

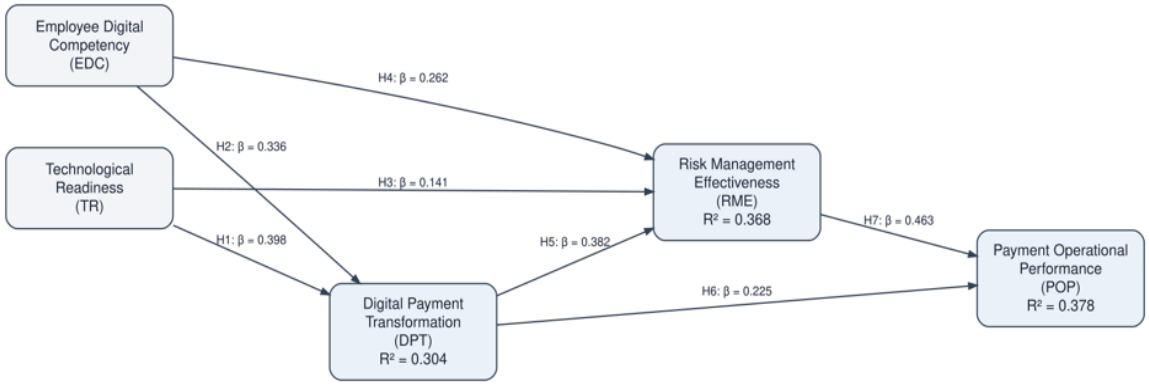


Figure 2: Structural model with standardised coefficients and explained variance

Figure 2 shows us the seven paths estimated and the explained variance of the three endogenous constructs. Its values are similar to the workbook when rounded off to the three decimal places. The diagram will give a concise view of the structure and relation of the two paths that lead directly into performance (Ong & Chong, 2023). All the paths shown are positive. This figure can be interpreted to reflect the approximate cross-sectional form, where the direction of arrows can be taken based on the theoretical formulation and not on the observed sequence of time.

Explained Variance and Effect Sizes

The model explains 30.4%, 36.8% and 37.8 % of the variance in the transformation of digital payments, efficacy of risk management and performance of payment operations, respectively. Adjusted R^2 values are 0.301, 0.364, and 0.375 respectively. The minor variances between R2 and adjusted R2 demonstrate that there is not much adjustment to the number of included predictors

Table 8: Explained Variance and Effect Sizes

Panel A Explained variance

Outcome	Predictors	R^2	Adjusted R^2
DPT	2	0.304	0.301
RME	3	0.368	0.364
POP	2	0.378	0.375

Panel B Incremental effect sizes

Predictor	Outcome	f^2	Magnitude
TR	DPT	0.223	Medium
EDC	DPT	0.159	Medium
TR	RME	0.025	Small
EDC	RME	0.092	Small
DPT	RME	0.160	Medium
DPT	POP	0.057	Small
RME	POP	0.241	Medium

in comparison with sample size. These values demonstrate significant explanatory variance and still have a tremendous variance beyond the model. The findings are not sufficient to consider the given capabilities a comprehensive description of the transformation of payments or operational performance

Table 8 indicates medium effect sizes in readiness-transformation, competency-transformation, transformation-risk management and risk management-performance. Their f^2 values are 0.223, 0.159, 0.160, and 0.241. The other relationships are of small effect size. Readiness -risk management has the least f2 of 0.025. The f2 of transformation- performance is 0.057 though statistically significant path exists. The differences demonstrate that the significance and the explanatory contribution should be viewed as different issues. The contribution of a significant relationship can only contribute a small amount of explained variance when the other predictors are controlled.

Specific Indirect Effects and Total Effects

All nine of the specific indirect effects are positive and the confidence intervals are positive. The relationships between risk management and readiness and competency are indirect with transformation being 0.152 and 0.128 respectively. The indirect relationship between transformation and the performance in risk management is 0.177 with a confidence interval between 0.120 and 0.244. The result indicates a statistically supported intermediate propensity as well as the direct transformation-performance coefficient. The model suggests that there is complementary partial mediation in terms of statistics since both the direct and indirect relationship are positive. The cross-sectional design does not allow the interpretation of such a mediation as a temporal one.

The sequential pathway of readiness, transformation, risk management and performance (0.070) and the

Table 9: Specific Indirect Effects

Specific indirect path	Effect	SE	p	95% CI
TR → DPT → RME	0.152	0.028	<0.001	0.102–0.211
EDC → DPT → RME	0.128	0.024	<0.001	0.085–0.177
TR → DPT → POP	0.089	0.024	<0.001	0.046–0.139
EDC → DPT → POP	0.076	0.020	<0.001	0.039–0.118
TR → RME → POP	0.065	0.024	0.0072	0.020–0.115
EDC → RME → POP	0.121	0.026	<0.001	0.074–0.175
DPT → RME → POP	0.177	0.032	<0.001	0.120–0.244
TR → DPT → RME → POP	0.070	0.015	<0.001	0.044–0.103
EDC → DPT → RME → POP	0.059	0.013	<0.001	0.037–0.088

Note: All intervals exclude zero. Indirect effects are statistical pathway estimates, not proof of temporal mediation.

corresponding competency pathway (0.059) are also supported in table 9. They do not contain zero. Indirect relationships between readiness and performance are found at transformation only (0.089) and risk management only (0.065). The indirect estimates of competency are 0.076 and 0.121. This trend indicates varied distributions of associations: the transformation-only estimate of readiness is bigger, whereas the risk-management-only estimate of competency is bigger. There is no formal comparison of these indirect effects.

Table 10 indicates that there is an overall change-performance relationship of 0.402 in the form of the

Table 10: Total Effects

Predictor	Outcome	Routes	Total effect	p	95% CI
TR	DPT	1	0.398	<0.001	0.310–0.483
TR	RME	2	0.293	<0.001	0.205–0.384
TR	POP	3	0.225	<0.001	0.168–0.286
EDC	DPT	1	0.336	<0.001	0.252–0.418
EDC	RME	2	0.390	<0.001	0.305–0.471
EDC	POP	3	0.256	<0.001	0.200–0.313
DPT	RME	1	0.382	<0.001	0.278–0.484
DPT	POP	2	0.402	<0.001	0.309–0.491
RME	POP	1	0.463	<0.001	0.362–0.562

direct coefficient of 0.225 and the indirect coefficient of 0.177. The indirect component represents approximately 44.0% of this total point estimate. It is a decomposition of the model specified, and not an indicator of realised managerial benefit. The associations between total readiness and performance and competency and

performance are 0.225, and 0.256 respectively. These totals add three indirect paths one each since direct capability- performance paths are not indicated. Their positive intervals justify the applicability of the constructs of capabilities in the pathway structure of the model.

Predictive Assessment

All endogenous indicators have positive Q2 predict value. The values of transformation are between 0.150 and 0.169, risk management between 0.122 and 0.155 and performance between 0.059 and 0.087. These scores are better than the basic predictive benchmark that was applied in the test. The negative values of the predictor suggest that we get the limited prediction of the ultimate outcome where the information derives out of the latest antecedents. This trend is in line with the existence of performance determinants, which technological readiness and employee competency do not measure.

Table 11 demonstrates a smaller PLS root mean squared error than a linear-model error on all five transformation

Table 11: Out-of-Sample Predictive Assessment

Item	Q^2 predict	PLS RMSE	LM RMSE	Δ RMSE	PLS MAE	LM MAE
DPT1	0.152	1.115	1.129	-0.013	0.914	0.924
DPT2	0.164	1.112	1.113	-0.001	0.921	0.927
DPT3	0.150	1.099	1.110	-0.011	0.903	0.909
DPT4	0.165	1.114	1.122	-0.008	0.922	0.935
DPT5	0.169	1.080	1.091	-0.011	0.887	0.895
RME1	0.145	1.135	1.134	0.001	0.936	0.935
RME2	0.155	1.057	1.065	-0.008	0.876	0.881
RME3	0.122	1.115	1.128	-0.012	0.929	0.936
RME4	0.131	1.158	1.161	-0.003	0.952	0.958
RME5	0.151	1.093	1.096	-0.003	0.921	0.920
POP1	0.072	1.184	1.195	-0.011	0.982	0.992
POP2	0.074	1.151	1.171	-0.020	0.954	0.971
POP3	0.059	1.179	1.197	-0.019	0.987	1.004
POP4	0.080	1.137	1.153	-0.016	0.957	0.970
POP5	0.087	1.233	1.245	-0.012	1.040	1.045

Note: Ten folds and ten repetitions; 4,700 held-out predictions per indicator. ⊿ RMSE = PLS minus linear model; negative values favour PLS. Prediction uses the earliest antecedents.

indicators, four of five risk management indicators and all five performance indicators. The only indicator where PLS is a little less effective is RME1 with an error difference of 0.0013. The other indicators show small decreases. The maximum decrease is around -0.0201 with POP2. These outcomes confirm the predictor relevance and show the little practical distinction between the two methods. The findings cannot be termed as a uniformly large predictive gains or independent validation with another independent sample.

Discussion

Technological and Employee Capabilities

The readiness-transformation and competency-transformation positive relationships are able to underpin the capability logic of the framework. The integration of digital channels into the regular work is linked to both technological resources and the ability of employees. Readiness exhibits the largest transformation coefficient, and a medium effect size, meaning a significant relationship in the given equation (Ong & Chong, 2023). This observation aligns with the purpose of appropriate systems in facilitating digital workflows. However, it does not determine that a new unit of technological spending would result in a similar increase in the transformation, due to the fact that expenditure is not gauged.

The medium effect size of transformation of employee competency is also present (Khando *et al.*, 2022). The fact that it is independent of other variables implies that the relationship of technological readiness to employee capability is not completely explained by technological readiness. Their empirical difference is supported by the relatively low value of the readiness-competency correlation. The management concern on system availability should be coupled with the concern on the practical staff capability (Srouji & Torre, 2022). This collective focus is supported at the organisational perceptions level in the analysis. It does not determine how competency development should go ahead with technology implementation or both should be pursued through a specific implementation schedule.

The construct incorporation comes with a significant qualification. Preparedness and competence are slightly above the neutral middle point of the scale as opposed to being approached by being agreed upon universally. Their positive structural relationships cannot be mistaken with the homogenous high levels of capabilities among the sample. The presence of strong associations can go

together with moderate average assessments (Adamu Ahmed *et al.*, 2022). This combination indicates that workers feel differentiation in working abilities and that differentiation is significantly associated with change. It gives a rationale to evaluate capability status between units instead of presuming that formal channel presence is analogous organisational readiness.

Capability Relationships with Rrisk Management

Compared to competency or transformation, readiness is less directly related with risk management. It has a f 2 of 0.025, which shows that there is a small additional contribution to the equation with all three predictors. Meanwhile, readiness is indirectly related to risk management by transformation. The overall estimate of 0.293 is thus higher than the overall direct coefficient of 0.141. The same trend is observed to correlate technological resources to control effectiveness in part since they are intertwined with the payment activity and not necessarily due to resource availability.

Competency is directly related to risk management with a coefficient estimate of 0.262 and a total estimate of 0.390. This indicates that controls are related to employee capability by direct and transformation pathways. The close correlation is substantively credible since activities of identification and responding need staff judgement. The controls of a unit can be available technically, but they are applied unevenly in case the employees fail to comprehend the procedures (Moon *et al.*, 2022). The result indicates a practical focus on competence in handling of exceptions and escalation. It fails to determine the success of any specific training programme or certification system.

Risk Management and Operational Performance

The biggest direct coefficient that leads to performance and a medium effect size is risk management effectiveness. Its contribution is larger than the direct transformation contribution (in point-estimates). This trend suggests that the quality of perceived control is linked closely with the perceptions of correct, reliable and effective payment procedures. It promotes a managerial method where the service performance and risk management are looked at jointly (Rifa Nurul Aulia *et al.*, 2023). Controls may enhance operational reliability by allowing early detection and response to be made in an organised way, as opposed to adding more formal procedural requirements.

Direct transformation coefficient is positive with risk management. Transformation then has a connection with performance that cannot be thoroughly accounted through control effectiveness (Teixeira & Reis, 2022). The result is in line with operational advantages of substituting manual labor and adjusting workflow. Nonetheless, its low effect size implies that it also has a modest contribution to the overall explanatory value as compared to the risk management direction. Digital integration can enhance conditions of services, yet the model reported lays a heavy emphasis on the possibility or impossibility of the control of the obtained processes in terms of payment.

The overall transformation correlation with performance is significantly greater than its direct coefficient. The proportion of the total point estimate that is statistically allocated on risk management is about 44. This break down provides a more comprehensive explanation than a conclusion relying solely on the straight path. It states that some of the transformation-performance correlation coincides with the perceived control efficacy. The percentage is a descriptive aspect of the estimated model. This is not to say that risk management would bring a total 44% actual improvement in operational changes in a future implementation programme.

Sequential Pathways and the Model Contribution

The enabling capabilities to performance through transformation and risk management are linked significantly in a series of pathways (Afreen, 2020). They are smaller than the immediate structural coefficients since their estimates are products through multiple links. These findings confirm the consistency of the pathway framework without determining a comprehensive organisational process. Not having direct capability-performance paths is a modelling choice, rather than an indication that such associations cannot occur. The totals of readiness and competency, in this case, are to be interpreted as associations mediated by the respective intermediate constructs (Kamil, 2020).

The framework is helpful as it makes a difference between enabling resources and transformation, effectiveness of control, and operational outcomes (Teker *et al.*, 2022). These differences in the staff responses are supported by reliable measurement and low ratios of HTMT. This is important since a model that combines all the desirable digital evaluations into a single construct would not be in a position to determine the distinct role of risk management. The current findings suggest that the effect of control should be analyzed separately. They also demonstrate that readiness and competency are more or less connected to transformation and risk management, which justifies a narrower meaning than a general statement to the effect that digitalisation enhances banking.

Explanatory and Predictive Interpretation

The values of the explained variance show that the three outcomes are well covered and most part of the variation is left unexplained. The balance facilitates the framework in that it is a narrow model and not a holistic definition of bank performance. The result of payments can also be related to the complexity of the workload, managerial coordination, the demand of service, or any other conditions of the organization (Suleman, 2023). These are not the factors that are measured in the reported model. Their potential applicability gives them a reason to be investigated further, but it does not give them a reason to ascribe unexplained variance to any specific omitted factor without further evidence.

The qualification of predictive results is independent. The positive values of Q 2 predict indicate that the

model has some useful predictive information as was reported in the cross-validation scheme. Nevertheless, the benefits come at a numerically insignificant cost compared to linear regression and one risk management measure is slightly underperforming (Saputra *et al.*, 2022). There is great statistical evidence on the directions thus along with modest relative predictive advantages. This mixture does not favor the model as a specific operational forecasting system. Its most viable application to date is the organisation of the evaluation of organisational capability relationships and the selection of areas to be more closely investigated.

Managerial and Institutional Implications

Coordinating Technological Investment and Staff Development

Banks are to estimate technological preparedness against the real payment needs. Questions of interest relate to the workload capacity, the appropriateness of the available systems, readiness to grow, the degree of reliance on manual interventions. A judgement which is purely on the presence of digital channels might fail to recognize these circumstances. The results advocate assessing preparedness and change in a way that investment choices are based on the usage of systems in daily functioning (Tepegöz, 2022). These evaluations ought to be complemented by operational reports prior to substantial expenditure being ascribed to a projected improvement in performance.

Employee development must cover routine execution covering as well as managing exceptions. Practical payment tasks and procedural changes, identification of irregular situations, and escalation responsibilities can be included in training. This integrated focus is supported by the competency relationships, in part, because competency is directly related to both risk management and transformation (Ozili, 2021). Attendance at training in itself cannot be considered evidence of proficiency. Additional evidence of capability can be presented by demonstrated task performance, supervised practice and reported exception handling. These are suggestions based on the model as opposed to tested interventions in the study.

Integrating Controls with Payment Workflows

Digital payment processes should be designed and revised to consider risk management. Units may look at the operation of checks when initiating a transaction, authorization, processing, and responses to irregularities. The responsibilities during the passage of a transaction across functions or channels should also be clear. The high-risk management-performance association justifies the consideration of controls as a component of trustworthy service delivery. Additions to control must however be considered in terms of the effects on operations (Nizam, 2022). The process that introduces delays without leading to better identification or response might not be able to assist the performance dimensions quantified in this study.

The results give a preference to the balanced performance evaluation. When measuring payment operations, banks are able to utilize service-time indicators, accuracy of transactions, exceptions that remain unresolved, and response quality indicators. Employee beliefs can give information on what to investigate, and records in the system can confirm them whether the issues relate to operational issues or not. This would enhance the evidential foundation of managerial action. The current questionnaire can facilitate the organized discussion between units, but it cannot be used on its own to assess the compliance or identify that the risk controls of a bank allow it to comply with all the relevant requirements (Romdhane, 2021).

Sequencing Improvement and Monitoring Results

A readiness and competence of employee's assessment can be used as an improvement programme starting point to be followed by a workflow integration and control effectiveness analysis. This order is in accordance with the logic of the framework. It must be flexible as there are specific units that might already have sufficient systems but can be limited in procedure or competency. The coefficients reported fail to determine the best sequence of investments in each bank. The major constraint in every unit needs to be differentiated using local operation evidence and the change chosen must be used to take direct action on the constraint.

Monitoring must create a difference between the implementation and the realised outcomes. Introduction of digital channel is an implementation event whereas sustainability of accuracy and reliable service is a performance outcome. Recurrent evaluation has the potential of determining whether the perception of employees is enhanced post-alterations and whether the records of operations shift in a similar manner (Ong & Chong, 2023). A comparison of these sources would enable the banks to be alert of a situation where seemingly the transformation is actually not yielding quality performance regarding payment. This suggestion mitigates the primary weakness of making conclusions regarding organisational progress using a single cross-sectional perception survey.

CONCLUSION

Transformation of digital payment has been positively correlated with the technological readiness and the digital competency of employees among the 470-record employee sample. Risk management effectiveness and payment operational performance are also related to transformation. The direct performance coefficient is higher and the incremental effect size is medium in risk management. The positive indirect transformation-performance correlation signifies that the effectiveness of the control is a significant element of the given pathway. All of the seven main hypotheses are supported statistically and the model accounts for meaningful but

partial variance in the three endogenous constructs.

These results endorse the coordinated focus on systems, staff strength, digital processes, and operational controls. They fail to attain causal enhancements, national representativeness, or quantifiable savings in paying losses. Small gains are observed over the linear-model benchmark with positive predictive relevance. The contribution to practice is a systematic protocol of evaluating the organisational states that relate to the cashless payment performance. A better set of conclusions can be achieved with documented fieldwork procedures, repeated observations, and independent operational measures to come to stronger conclusions related to the outcomes of implementation.

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