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Effect of Knowledge Management on Organizational Performance by Mediating Role of Organizational Innovation

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Abstract

In today's dynamic business environment, knowledge management (KM) is crucial for enhancing organizational performance. This study investigates the impact of KM on organizational performance in private banks of Bule Hora, Ethiopia, focusing on the mediating role of organizational innovation. The research aims to bridge the gap in understanding how KM practices influence organizational performance through innovation in this specific context. Using a mixed-methods approach combining explanatory and descriptive designs, the study examines the relationships between KM, organizational innovation, and performance. The findings are expected to highlight the significance of organizational innovation as a mediator in the KM-performance relationship, providing insights for private banks to leverage KM for competitive advantage and improved performance.

Keywords

Knowledge Management (KM), Organizational Performance, Organizational Innovation

1. Introduction

In today's rapidly changing business landscape, knowledge management has emerged as a critical factor in enhancing organizational performance. The effective utilization of knowledge within organizations enables them to stay competitive, innovate, and adapt to dynamic market conditions. However, despite the increasing recognition of knowledge management's significance, there is a lack of comprehensive empirical research that explores its impact on organizational performance (Alrubaiee et al., 2015; Khoualdi & Binibrahim, 2019; Fiseha, 2015). This research gap has led to a growing need for a study that investigates the effect of knowledge management on organizational performance and identifies the underlying mechanisms that mediate this relationship.

The importance of knowledge management on organizational performance has been widely acknowledged on a global scale.

Many studies conducted worldwide have demonstrated the positive impact of knowledge management practices on various aspects of organizational performance, such as improved customer satisfaction, increased operational efficiency, and enhanced innovation capabilities. For instance, research conducted by Nouri et al. (2017) highlighted the influence of knowledge management on organizational performance, emphasizing the role of information technology in knowledge sharing and collaboration. Similarly, Obeso et al. (2020) found that effective knowledge management practices positively correlated with organizational performance in Canadian firms.

Within Ethiopia, knowledge management has started to receive attention, particularly among private enterprises. The Ethiopian economy has been experiencing significant growth over the past decade, and private banks have emerged as key players in this growth story. However, little research has been conducted to understand the relationship between knowledge management and organizational performance specifically within the context of private banks in Ethiopia. This research will help bridge this gap and shed light on the extent to which knowledge management practices impact the performance of private banks in Ethiopia, thus enabling them to stay competitive, innovate, and adapt to the changing business environment.

Statement of Problem

Knowledge management has gained significant attention in recent years, as organizations recognize the potential of harnessing their knowledge resources to improve performance (Forghani & Tavasoli, 2017). However, there is limited research on the specific relationship between knowledge management and organizational performance, especially in the context of private banks in Bule Hora, Ethiopia. This study aims to fill this research gap by investigating the effect of knowledge management on organizational performance, with a focus on the mediating role of organizational innovation. A study conducted by Jones et al. (2017) in the United States examined the impact of knowledge management on organizational performance in the banking sector. The findings revealed a positive relationship between knowledge management practices and organizational performance. However, this study did not explore the mediating effect of organizational innovation, which suggests a research gap that needs to be filled.

On the other hand, a study conducted by Mohammed et al. (2018) in Addis Ababa, Ethiopia, investigated the relationship between knowledge management and organizational performance in the manufacturing sector. The results indicated a significant positive relationship between knowledge management practices and organizational performance. Nonetheless, this study did not consider the mediating role of organizational innovation, highlighting a gap that this current study seeks to bridge.

Another study conducted by Nilsen and Odegaard (2019) in Norway explored the mediating effect of organizational innovation in the relationship between knowledge management and organizational performance in the telecommunications industry. This study found a significant mediating effect of organizational innovation, indicating the importance of considering this variable in the analysis. However, the study was limited to Norway, emphasizing the necessity for further research in different contexts, such as Bule Hora, Ethiopia.

Comparing these three studies, two notable research gaps emerge. Firstly, none of the studies focused specifically on private banks in Bule Hora, Ethiopia, suggesting a need to investigate this particular context. Secondly, none of the studies explored the mediating role of organizational innovation, which reflects a significant research gap that must be addressed. The aforementioned paragraphs show that the research topic "Effect of Knowledge Management on Organizational Performance: the Mediating Role of Organizational Innovation with reference to Private Banks in Bule Hora" holds significant importance in the current knowledge era. Organizations have recognized the value of knowledge as a tool for enhancing their performance and gaining a competitive advantage. Knowledge management practices, including knowledge acquisition, storing, sharing, and application, play a crucial role in improving organizational performance. Private Banks, in particular, view knowledge as a significant asset in their battle for competitive advantage. However, there is a research gap in understanding the mediating role of organizational innovation in the relationship between knowledge management practices and organizational performance, especially in the context of private banks in Bule Hora. Previous studies have shown

contradictory findings, and theoretical frameworks in this area are often lacking. Additionally, there is a need for robust research designs and appropriate methodologies to examine this relationship effectively.

Furthermore, there is knowledge void in specific knowledge management practices that have been extensively studied in the context of private banks in Bule Hora. While general practices, such as knowledge sharing and creation, have been discussed, there is a need for research that explores the specific practices relevant to the banking industry in this region.

Objective

- To investigate the relationship between Knowledge Management and Organization performance in the study area.
- To examine the relationship between Knowledge Management and Organizational innovation in the study area.
- To investigate the relationship between of Organizational Innovation and organizational performance in the study area.
- To analyze the mediation role of organizational innovation between Knowledge Management and organizational performance in the study area.

2. Empirical Review

a. Knowledge Management and Organizational Performance

A study by Salleh and Isa (2017) investigated the impact of KM practices on organizational performance in Malaysian private banks. The findings indicated a positive relationship between KM practices, such as knowledge sharing, knowledge acquisition, and organizational performance. Effective KM practices facilitated the efficient utilization of knowledge assets, resulting in improved operational efficiency, customer satisfaction, and financial performance. Similarly, a study conducted by Chiu, Hsu, and Wang (2017) examined the relationship between KM and organizational performance in Taiwanese private banks. The results revealed a positive association between KM practices, including knowledge creation, knowledge acquisition, and organizational performance. The effective implementation of KM practices enhanced the banks' ability to innovate, adapt to market changes, and deliver superior customer service, leading to enhanced financial performance.

Samina et al, (2015) identified that KM have significant but indirect impact on performance of the banking industry. Shuting and Dengke YU, (2023) in their finding stated that internal KM capability and firm performance have an insignificant relationship while external KM has a significant and positive affect the performance. Data analysis by Idrees H et.al (2023) reveals that KM dimensions, knowledge acquisition, application, and protection positively and significantly influence organizational performance; however, knowledge conversion is insignificant. The study by Wang Yizhou and Lin Jian (2011) found that knowledge management plays a positive role in promoting organizational performance. Hira and Atif (2019) in their research found that KM has a positive and significant effect on organizational performance. A study by Forouzan Rezaei et al (2021) found that there is a positive and significant relationship between KM and organizational performance. Maria et al,(2020) in their research found that knowledge generation (KG) and knowledge flow (KF) promote firm performance, while there is not a direct association between knowledge storage and performance.

b. Organizational Innovation and Knowledge Management

A study by Janssen, Matzler, and Hatak (2017) examined the impact of knowledge management on organizational innovation in Austrian private banks. The findings revealed a positive relationship between KM practices, such as knowledge sharing, knowledge creation, and organizational innovation. Effective KM practices facilitated the generation and dissemination of knowledge, leading to increased innovation capacity and the introduction of new banking products and services. The research by Yeh, Lai, and Ho (2018) investigated the relationship between KM and organizational innovation in Taiwanese private banks. The results indicated that KM practices, including knowledge acquisition, knowledge sharing, and organizational innovation, were positively correlated. The effective management of knowledge assets facilitated the development of innovative solutions, leading to improved competitiveness and market positioning. A study by Wang Yizhou and Lin Jian (2011) found that Organizational innovation partially mediates the relationship between knowledge management orientation and organizational performance

c. Organizational Innovation and Organizational Performance

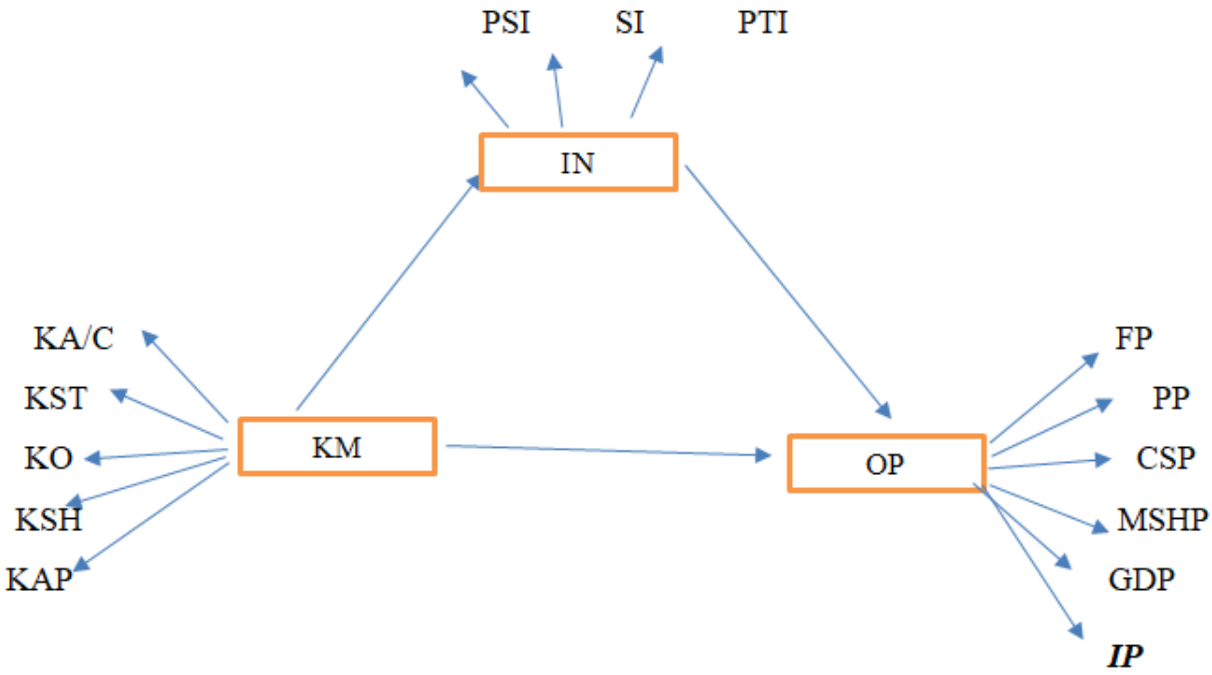
Organizational innovation has a significant impact on the performance of private banks. Several studies have explored the relationship between organizational innovation and organizational performance. A study by Zhang, Wang, and Ma (2018) examined the impact of organizational innovation on the performance of Chinese private banks. The findings revealed a positive relationship between organizational innovation and performance. Banks that embraced innovation achieved higher financial performance, market share, and customer satisfaction. A study by Gupta and Bhattacherjee (2019) investigated the relationship between organizational innovation and performance in Indian private banks. The results indicated a positive association between organizational innovation and financial performance. Banks that fostered a culture of innovation and encouraged employees to generate and implement new ideas experienced improved financial outcomes.

d. Mediation of Organizational Innovation in KM and Organizational Performance

Several studies have explored the mediating role of organizational innovation in the relationship between knowledge management and organizational performance in private banks. A study by Chen, Huang, and Hsieh (2019) examined the mediation effect of organizational innovation between knowledge management and organizational performance in Taiwanese private banks. The findings revealed that organizational innovation partially mediated the relationship between knowledge management and performance. Effective knowledge management practices positively influenced organizational innovation, which, in turn, enhanced financial performance. The study by Wang, Wang, and Yu (2020) investigated the mediating role of organizational innovation between knowledge management and performance in Chinese private banks. The results indicated that organizational innovation fully mediated the relationship between knowledge management and performance. Effective knowledge management practices positively influenced organizational innovation, which, in turn, led to improved financial performance.

Generally, the empirical literature suggests a positive relationship between knowledge management, organizational innovation, and organizational performance in the context of private banks. Effective knowledge management practices facilitate the generation, sharing, and utilization of knowledge, leading to enhanced organizational innovation, which, in turn, results in improved financial performance, market positioning, and customer satisfaction. Furthermore, organizational innovation plays a mediating role between knowledge management and organizational performance, highlighting its significance in the banking sector. A research result by Shuting and Dengke YU, (2023) identified innovation has fully mediation character between internal KM and performance while it has partial mediation behavior between external KM and performance. Hisham I et al. (2022) also found innovation has a significant moderating role in the relationship between KMC and organizational agility.

Conceptual Framework



Source: researcher own, 2024

3. Research Methodology

The chosen research design for this study is a combination of explanatory and descriptive design. The explanatory research approach involves collecting data from private banks over multiple time points to investigate the relationship between knowledge management, organizational innovation, and organizational performance. This approach allows for the examination of changes and trends in these variables over time, providing insights into the causal dynamics and potential mediating role of organizational innovation. Explanatory research designs are well-suited for studying complex phenomena in real-world contexts and understanding how variables interact and influence each other over extended periods (Yin, 2018). By following private banks longitudinally, this study aims to shed light on the long-term effects of knowledge management on organizational performance while considering the mediating influence of organizational innovation. Cross-sectional involves collecting data from different private banks at a specific point in time to examine the relationship. Between knowledge management, organizational innovation, and organizational performance. Cross-sectional research designs are valuable in capturing a diverse range of bank characteristics, performance levels, and knowledge management practices, enabling a comprehensive understanding of the interplay between knowledge management, organizational innovation, and organizational performance in the context of private banks (Sekaran & Bougie, 2016).

Both quantitative and qualitative approaches were selected for this study based on their ability to provide statistical evidence and support inferences about the relationship between variables. By collecting and analyzing numerical data, this research design allows for the use of statistical techniques to examine and quantify the relationship between knowledge management, organizational innovation, and organizational performance. This approach will enable the researcher to draw objective and generalizable conclusions about the effect of knowledge management on organizational performance, with the mediating role of organizational innovation, in private banks in Bule Hora.

Sample Design

The target population for this study is defined as the 292 employees working in private banks in Bule Hora town. These employees are chosen as the population of interest for the research due to several reasons. Firstly, private banks in Bule Hora town represent a specific sector within the banking industry. By focusing

on employees in private banks, the research aims to capture the unique characteristics, challenges, and dynamics present in this particular sector. This allows for a more specific and contextualized understanding of the research topic. Secondly, Bule Hora town itself may have certain characteristics or traits that make it relevant for the study. It could be a hub for private banking activities, have a distinct economic context, or display specific patterns or trends in the banking industry. By focusing on private banks in this specific town, the study can explore these potential factors and their influence on the research topic.

Sampling Techniques:

Simple random is used to select potential participants: Once the sample size is determined, potential participants can be selected randomly from the sampling frame. This can be done by assigning each individual a number and using a random number generator to select the desired number of participants. Simple size is the specific number calculated using scientific formula to conduct the research. The total population under this study was 292. Since it was difficult to address the whole population, the researcher took a sample from that population using a scientific formula which is developed by Yemane, 1967 with a 95% level of confidence and 0.5 error terms.

$$n = \frac{N}{1 + (\delta)^2}$$

Where, n = sample size, N = num being of population, δ = acceptable errorat acceptable error (sample error) 5%

N - Num being population which was 292 employees in Bule hora town

$$\boldsymbol{n = \frac{N}{1 + N(e^2)} = \frac{292}{1 + 292(0.05)^2} = 170}$$

There is a table of Sample size that was taken from the 10 private Banks in Bule Hora town.

Table 1: Sample size

Name of bank	No. of Employees	Proportionate sample Size of Bank
Awash Bank	44	26
Abyssinia Bank	32	19
Birhan Bank	24	14
Cooperative Bank of Oromia	42	24
Dashen Bank	28	16
Debub Global Bank	16	9
Nib international Bank	20	12
Oromia bank	26	15
Wegagen Bank	22	13
Sinke Bank	38	22
Total	**292**	**170**

Source: Private bank operated in Bule hora town (2024)

Table 2: Cronbach's alpha coefficient

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.895	.897	12

Source: from SPSS 23.

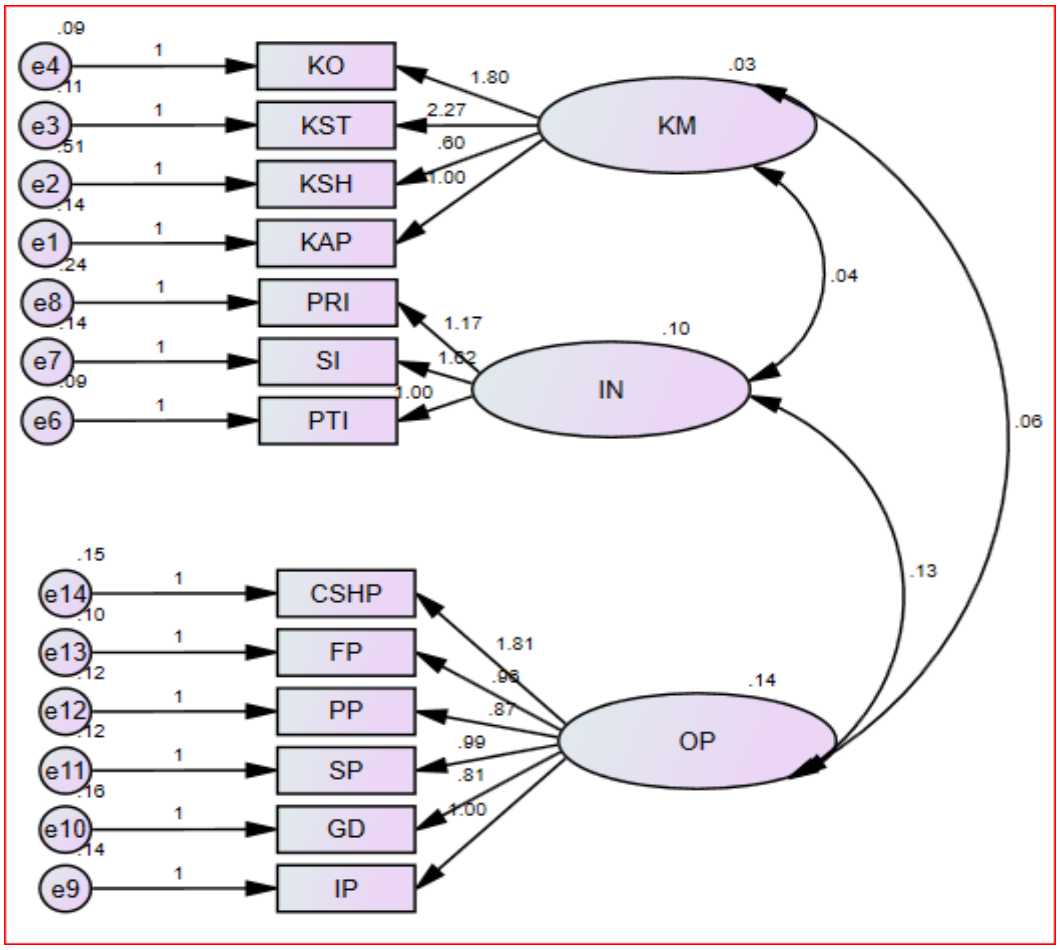
4. Confirmatory Factor Analysis

The measurement model describes the relationships between observed variables (e.g., instruments) and the construct or constructs those variables are hypothesized to measure. SEM allows for these two components of the analytic strategy to be done simultaneously; that is, the relations between indicators and latent variables and the relations between latent variables are evaluated in a single

model. Confirmatory factor analysis is used in testing the measurement model, and the hypothesized factors are referred to as latent variables. The measures chosen by the researcher define the latent variables in the measurement model. A latent variable is defined more accurately to the extent that the measures that define it are strongly related to one another.

Measurement model assessment was done first by confirmatory factor analysis and assessment of the validity and reliability of the model. In confirmatory factor analysis, the researcher identified the indicators factor loading and removed the indicators with a lower than minimum requirement which is a recommended value of .70 and above. (Kline, 2010). Applications of SEM that focus exclusively on the relations between latent variables and their indicators are referred to as restricted factor analysis or, more commonly, confirmatory factor analysis (CFA).

Figure 2 confirmatory factor analysis



Source: AMOS v 23. 2024

As indicated by the above figure, five indicators; knowledge acquisition, knowledge organization, knowledge sharing, knowledge storage, and knowledge applications were proposed to represent the latent variable knowledge management and from those indicators, knowledge acquisitions have been deleted so that it cannot lower factor loading that is under the accepted level. Thus, the remaining four have the power to indicate knowledge management. Concerning the indicators of innovation all three (process innovation, service innovation, and product innovation) have higher factor loading that is required to indicate the endogenous latent variable. Organizational performance was supposed to be represented by six indicators namely '. market share performance, financial performance, process performance, growth and development performance, internal performance and service performance were able to indicate organizational performance since they carry the required level of factor loadings as indicated in the above figure. Thu from the figure only knowledge acquisition is not significant to show knowledge management and as a result, it was deleted when CFA operation. Collier J.E (2020) in his literature stated that you can have unstandardized loadings greater than 1 and it is perfectly acceptable.

Generally, items with outer loadings from 0.40 to 0.70 shall be considered for removal only if deletion results in an increase of composite reliability or average variance extracted (AVE) over the recommended value (Hair et al., 2016).

5. Validity and Reliability Test

In the measurement model, the researcher carefully examined the reliability and convergent validity of the measures used in the study. The indicator loadings were assessed first. In this test, a loading value of 0.70 or higher was suggested. The researcher removed items with less than the indicated value. In assessing validity and reliability, the researcher has assessed To test for reliability, composite reliability was assessed in addition to Cronbach alpha and the result was 0.76 for Knowledge management, 0.81 for Organizational Innovation, and 0.96 for Organizational Performance. Furthermore, once the examination of the loadings of the items was completed, the researcher then evaluated the composite reliability, which is considered the second step in the measurement model that assesses the reliability of internal consistency. Achieving greater composite reliability values indicates more reliability in the study items. Composite reliability between 60 and 70 is regarded as satisfactory. The third step was to assess convergent validity, which is the degree to which one item compares favorably to another item of the same construct. The average variance extracted (AVE) was used for this step. The recommended AVE value is 0.50 or above, as it shows the ability of the constructs to explain more than 50% of the variance in the constructs' item.

Table 4: Validity test table

Construct	Indicators	Factor Loadings	Composite Reliability (CR)	Average Variance Extracted (AVE)	Cronbach's Alpha
Knowledge management	KO	1.8	.76	.7	
	KSH	2.27			
	KST	0.6			
	KAP	1.00			
INNOVATION	PSI	1.17	81	.63	
	PTI	1.62			
	SI	1			
Organizational performance	MSHP	1.81	.96	.82	
	FP	.98			
	PP	.87			
	SP	.99			
	GDP	.81			
	IP	1			

Source: Researchers' own computation, 2024

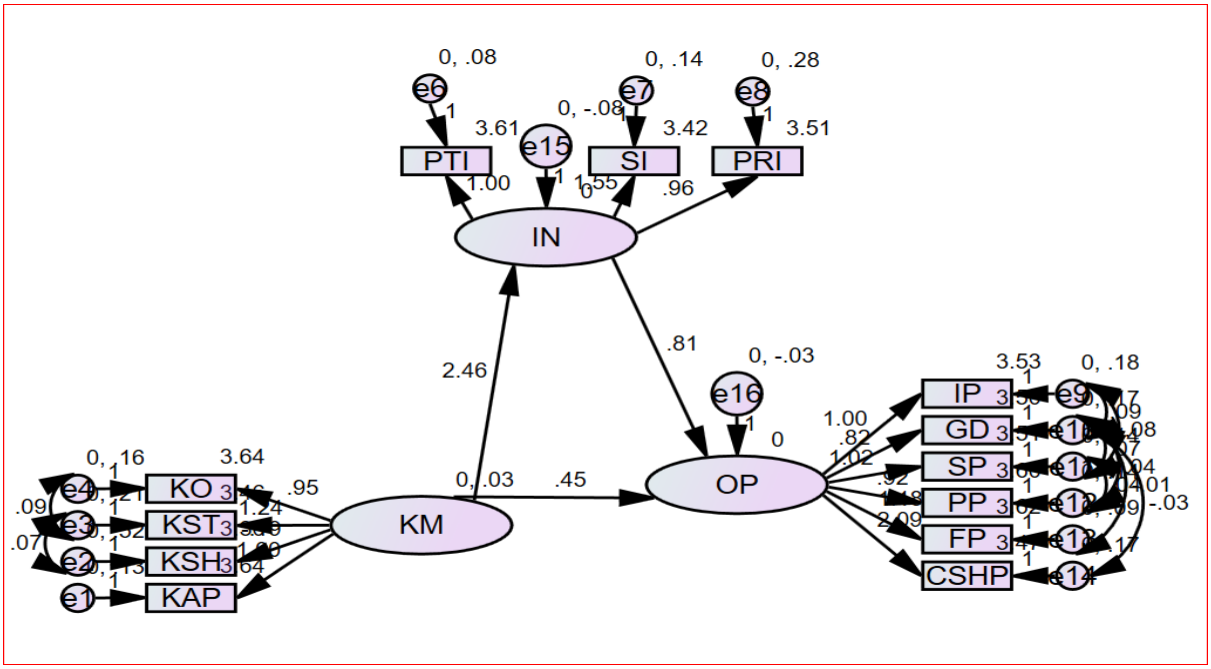
As it is indicated by the table above, it can be concluded that there is no reliability problem from the above table one can conclude that there is no problem of reliability and validity since all the values are above the recommended point. The factor loadings of each latent variables have above the required value. For Knowledge Management; knowledge organization, knowledge sharing, knowledge storage, and knowledge application have loading factor value which is above the minimum requirement. Factor loading shows the variance explained by the variable on that particular factor. In the SEM approach, as a rule of thumb, 0.7 or higher factor loading represents that the factor extracts sufficient variance from that variable. Regarding the innovation, the factor was explained all the indicators have more than the minimum required level of factor loading and hence acceptable values. Organizational performance was explained by its indicators as per the figure above. Regarding the normality test of the measurement models' critical ratio is greater than 1.96, then the researcher can conclude that there is no normality issue.

Discriminant validity was also assessed and by comparing a square root of AVE against latent variable correlation but could not fit the required criteria since the square root of AVE became greater than correlation between two constructs. Therefore, the researchers proceed to Heterotrait-Monotrait test HTMT analysis.

6. Structural Model Assessment

The structural model describes interrelationships among constructs. Equations in the structural portion of the model specify the hypothesized relationships among latent variables.

Figure 3: path analysis



Source: developed by own survey, 2024

A structural model equation generated through AMOS was used to test the relationship. A good fitting model was accepted if the values of CMIN/df , the good of fit indices(GFI) (Hair et al,2010), Tuker and Lewis (1973) indexes, confirmatory fit index(CFI) (Bentler,1990) is greater than .90 (Hair 2010). In addition, an adequate fitting model was accepted if the AMOS computed value of standardized root mean square residual (SRMR) < 0.05 and the root mean square error approximation (RMSEA) is between .05 and .08 (Hair et al,2010). The fit indices for the model are shown in the table below within the acceptance range. CMIN.df =8.865, good of fit (GFI) = .959, TLI=.937, CFI= .968, SRMR=.0458, and RMSEA=.094. From root mean square error of approximation (RMSEA) is an adequate fit since it is less than .95. CFI close to one indicates a good fit. Here from the above table, the value of the comparative fit index (CFI) is .968 which shows a good fit. Normed fit index (NFI), incremental fit index (IFI), and Tucker Lewis index(TLI)are greater than .90 which are .961,.969, and .937 respectively which can show good fit (Bentler & Bonnet,1980). Structural model measurement was tested by R square to identify by what extent does organizational performance was explained by knowledge management and organizational innovation of private banks in the study area. The output result is shown by the table below.

Table 5: R square test

Squared Multiple Correlations: (Group number 1 - Default model)		Estimate
IN		.986
OP		.926

Source: researchers own, assisted by Amos, v23, 2024

From the above table one can identify that 92.6% of organizational performance was explained by the organization's innovation and 98.6% of organizational innovation was explained by knowledge management of the private banks. The study also tried to assess the effects of independent variables on the dependent variables and the result was forwarded as the table below by maximum likelihood model.

Table 6: Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
IN	<---	KM	2.459	.571	4.307	***	par_11
OP	<---	IN	.812	.111	7.321	***	par_12
OP	<---	KM	.453	.123	3.664	***	par_13

Source: by researchers' own computation assisted by Amos v,23, 2024.

From the table above, it was concluded that the effect of knowledge management on innovation and organizational performance is positive while the effect of innovation on organizational performance is negative. It was indicated that there is a significant positive relationship between knowledge management and innovation with b=2.459, t= 4.3, and a standard error of .571. There was a significant positive relationship between innovation and organizational performance and hence the probability of getting a critical ratio as large as 7.32 in absolute value is .812. There is a positive insignificant relationship between knowledge management and organizational performance with b=.45, standard error .123, and critical ratio (t) =3.39. From the above values it can be understood that all the proposed variables have positive and significant relationship to one another.

7. Conclusion

The researcher tried to analyze the effect and relationship between knowledge management, innovation, and organizational performance in the private banks in Bule Hora town. The research result shows that knowledge management has and significant effect on organizational performance when it is applied directly or when applied indirectly through organizational performance. Organizational innovation also has a positive significant effect on organizational performance. Organizational knowledge management has a positive significant effect on organizational innovation. From indicators of organizational knowledge management, the indicated private banks rarely practice knowledge acquisition and hence it has insignificant indicating power for knowledge management. This results in inappropriate use of knowledge and innovation that don't contribute for the performance of the banks.

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