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Impact of Knowledge Management and Information Technology Capability on Performance

Sodikin Manaf[1*] ,Riana Sitawati[2], Rico Yudha Permana[3]
STIE Dharmaputra, Indonesia
Email: kap.sh.smg@gmail.com, rianasitawati@gmail.com, nchoranger@gmail.com

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Abstract
The improvement of company performance is closely linked to the enhancement of human resource quality and information technology capability. In the banking industry, knowledge management and information technology capability play a crucial role in driving organizational performance. This study aims to empirically examine the effect of knowledge management on company performance, with information technology capability as a mediating variable. This research employs a survey method with respondents comprising the Heads of the Accounting Department from 162 branches and sub-branches of one of Indonesia's largest regional banks. Data was collected using a structured questionnaire and analyzed through structural equation modeling (SEM) to evaluate the relationships among variables. The findings indicate that knowledge management has a significant positive effect on information technology capability. Furthermore, both knowledge management and information technology capability significantly influence company performance. Information technology capability also acts as a partial mediator in the relationship between knowledge management and company performance. The implications of these findings highlight that implementing effective knowledge management practices and strengthening information technology infrastructure are essential strategies for improving banking performance. Therefore, organizations need to invest in knowledge management systems and IT infrastructure to optimize performance outcomes in a competitive banking environment.

1. Introduction
To enhance the competitiveness of both business and public organizations, it is essential to implement effective knowledge management alongside the management of skills aligned with the organization's competencies and demands. This knowledge requires careful planning and execution.(Williams Jr et al., 2021) The process of organizational interaction with various stakeholders is time-consuming and complex. (Eray et al., 2021) Therefore, when knowledge is managed appropriately, it can significantly contribute to boosting the organization's competitive edge. (Azeem et al., 2021a)

Knowledge is regarded as a crucial asset for attaining long-term competitive advantage and signifies the emergence of a new economic era—the knowledge-based economy. (Hassan & Ismael, 2023) This era is characterized by the growing prominence of competition driven by knowledge and intellectual capital (Li et al., 2021). Knowledge serves as a critical foundation for competition and can provide a strategic advantage because it is inherently non-transferable, difficult to replicate, and irreplaceable (Yewei & Pereira, 2022). However, the processing of knowledge itself does not guarantee strategic advantage (Banmairuroy et al., 2022). Instead, the knowledge must be managed. Knowledge management requires companies to further improve the management and use of all knowledge owned by the company and its employees (Tajpour et al., 2022)

Managers view knowledge as the key resource that drives the organization, enabling it to remain competitive and effective in the marketplace.(Azeem et al., 2021b) When an employee departs, the organization must recognize that they take with them a wealth of valuable knowledge that is crucial to the company's success (Serenko, 2022)

Essentially, Knowledge Management has the potential to enhance financial performance by influencing key factors such as customer satisfaction, the success of new product development, innovation, and the organization's technological capabilities. These elements act as important mediators in driving financial growth.

Through knowledge management, leaders not only share experiences and knowledge, but create something called "contamination centers", where people infect others with ideas.(Danaeefard et al., 2022). Knowledge management serves primarily as a method that can be integrated into business practices, whether focused on technology or product development. (Idrees et al., 2023)However, the role of information technology is crucial for the effectiveness of any knowledge management initiative. IT creates the foundation, or enterprise architecture, that facilitates the creation and organization of knowledge within the organization (Kotusev & Kurnia, 2021)

This research tries to explain the conflict of the information technology function in knowledge management with the ability of information technology to be defined.(Lam et al., 2021) as the company's ability to mobilize and deploy resources based on information technology in combination and merging with other resources and capabilities. The researchers selected Bank of Central Java as their subject because the bank consistently enhances its human resource competencies in alignment with evolving business trends. Moreover, as a regional bank owned by the Central Java Provincial Government, it has garnered recognition in Indonesia, winning the "Outstanding Transformation to Support Regional Small Medium Enterprise" and "Outstanding Corporate Social Responsibility" awards from CNN in 2024. The development of employee competencies aims to create a workforce that is both professional and highly skilled, serving as a key advantage and bolstering competitiveness for a regional bank that has successfully sustained its presence in Indonesia. With this context in mind, this article seeks to explore the impact of knowledge management and information technology capabilities on financial performance.

2. Materials and Method

Research type, data collection method, and population

This research is explanatory research, to obtain clarity of phenomena that occur in the empirical world (real world) and try to get answers (verificative), which aims to explain the causal relationship between variables through data analysis in order to test hypotheses. (Sugiyono, 2003).

The data collection method uses survey techniques by distributing questionnaires by sending directly, the respondents of this study include the Bank of Central Java. The use of questionnaires is in the form of written questions that have been formulated previously that will

be answered by respondents, usually in clearly defined alternatives. (Sekaran & Bougie, 2017). In this study, the answers given by employees were then scored with reference to the Likert scale. Population is a generalization area consisting of objects that have certain qualities and characteristics determined to be studied and then draw conclusions. (Sugiyono, 2003). In addition to using a questionnaire, this research also uses the documentation method, which comes from the Annual Report, Bank of Central Java.

The sample in this study of all members of the population was taken all, so it was a census or saturated sample of employees of branches and sub-branches of Bank of Central Java throughout Central Java. Each branch is taken 1 person, namely the branch leader or Head of the Accounting Sie, so that the total population is 162 respondents due to the management position as a financial report analyst who provides information about the financial condition of the Bank of Central Java work unit.

Operational Definition of Variables

Knowledge Management

Knowledge management is a process that helps organizations identify, select, organize, disseminate, transfer, and apply important information and expertise that is part of the organization's memory and generally resides within the organization in an unstructured manner. (Choirina, 2014).

The indicators used in this study were adopted from research developed by (Kosasih & Budiani, 2008) namely: 1) The work unit where I work gets new knowledge / experience from the training that is followed. 2) The work unit where I work "sharing based practice" activities are useful for increasing experience. 3) The work unit where I work develops new knowledge into an idea or creativity. 4) The work unit where I work gains new experiences every day. 5) The work unit where I work communicates work experiences with other coworkers. 6) The work unit where I work has gained experience that enriches knowledge. 7) The work unit where I work experiences are not only gained from oneself but also from others. Furthermore, the measurement of this knowledge management scale is measured in 5 points, namely the scale (1) strongly disagree. (2) disagree, (3) neutral, (4) agree, to scale (5) strongly agree.

Information Technology Capability

Information technology capabilities are not only limited to computer technology (hardware and software) used to process and store information, but also include communication technology to transmit information. (Choirina, 2014).

The indicators used in this study were adopted from research developed by (Kosasih & Budiani, 2008), namely: 1) The work unit where I work internet & intranet is a suitable means of obtaining and disseminating information. 2) The work unit where I work knowledge of the internet & intranet must be known by all employees, both staff and supervisory employees. 3) The work unit where I work, the current internet & intranet facilities are very helpful for the employee's work process. 4) The work unit where I work, the current internet & intranet facilities help the work process. 5) The work unit where I work internet and intranet facilities can increase work efficiency both in terms of time and cost. 6) The work unit where I work frequently uses the internet & intranet to find information and increase knowledge. 7) The work unit where I work the utilization of technology in each unit is truly effective. 8) The work unit where I work intranet facilities are very helpful in importing and sending data. Furthermore, the measurement of the Information Technology Capability scale is measured in 5 points, namely a scale of (1) strongly disagree. (2) disagree, (3) neutral, (4) agree, to scale (5) strongly agree.

Financial Performance

The financial performance of banking companies is generally measured using ratio indicators which are part of capital, assets, earning and liability which are part of CAMEL banking. CAR is a capital ratio that shows the bank's ability to provide funds for business development purposes and accommodate the risk of fund losses caused by bank operations.

Assets are measured using non-performing loan (NPL) indicators, Non-performing loan (NPL) is a financial ratio related to credit risk, while earnings are measured using return on assets (ROA) indicators. This ratio is used to measure the ability of Bank management to obtain overall profit. Liability ratio is measured using loan to deposit ratio (LDR) indicator. Load to deposit ratio (LDR) is a ratio that measures the bank's ability to meet the obligations that must be met. (Kurniawansyah & Mutmainah, 2013)

The indicators used in this study were adopted from research developed by (Amrul & Hardi, 2010), namely: 1) The work unit where I work has CAR. 2) The work unit where I work has NPL. 3) The work unit where I work has ROA. 4) The work unit where I work has LDR. 5) The work unit where I work has NIM. As well as Bank of Central Java's financial ratio data obtained from Respondents.

3. Results and Discussions

This study uses primary data, the distribution and collection of questionnaires is carried out directly by researchers by distributing questionnaires directly and through google form media to all branches of Bank of Central Java throughout Central Java, one person is taken, namely the branch leader or Head of the Accounting Sie, so that the total population is 162 respondents due to management positions. Furthermore, the questionnaire was processed with the Smart PLS application tool to test normality, validity, reliability, and multiple linear regression.

Reliability Measurement

Reliability measurement using the Average Variances Extracted (AVE) method and composite reliability which measures a construct can be evaluated with two kinds of measures, namely internal consistency and Cronbach's alpha. It is explained in table 1 that the value or coefficient of Average Variances Extracted (AVE), internal consistency and Cronbach's alpha of the Knowledge Management, Information Technology Capability, and Financial Performance variables are all more than 0.70 so that they can be declared reliable.

Table 1
AVE and Composite Reliability

-	AVE	Internal Consistency	Cronbach Alpha	Description
Knowladge Management	0.739	0.781	0.778	Reliable
Information Technology Capability	0.726	0.809	0.802	Reliable
Financial Performance	0.767	0.794	0.789	Reliable

Source: Data processed, 2024

Multicollinearity Measurement

Multicolonierity testing is done by looking at the Full Collinearity VIFs value, explained in table 2 that all Full Collinearity VIFs values of the Knowledge Management, Information Technology Capability and Financial Performance variables are all less than 2.5 so that they can be declared free from multicolonierity symptoms.

Table 2
Path coefficients (mean, STDEV, T-values)

-	Sample Mean (M)	Description
Knowledge Management	1.002	Multicolonierity Free
Information Technology Capability	1.014	Multicolonierity Free
Financial Performance	1.007	Multicolonierity Free

Source: Data processed, 2024

Model Feasibility Test

Based on the guidelines established by Baron and Kenny (1986), several conditions must be met to assess the presence of mediation. These include: Knowledge Management having a significant impact on Financial Performance, Knowledge Management significantly influencing Information Technology Capability, and Information Technology Capability significantly affecting Financial Performance. Perfect mediation occurs when the inclusion of a mediating variable results in Knowledge Management maintaining a significant effect on Financial Performance. As shown in Table 4, the path coefficient of Information Technology Capability indicates a significant effect on Financial Performance, confirming that the mediation in this study is complete. Therefore, H4 is supported.

Table 3
Path Analysis Results

Hypothesis	Path Analysis	P-value	Verification
H1	Knowledge Management-> Financial Performance	0.021	Accepted
H2	Knowledge Management -> Information Technology Capability	0.010	Accepted
H3	Information Technology Capability -> Financial Performance	0.004	Accepted
H4	Knowledge Management -> Information Technology Capability -> Financial Performance	0.016	Accepted

Source: Data processed, 2024

Model Feasibility Test

The model's feasibility test using PLS begins by examining the R-Square and Q-Square values, as shown in Table 4. The coefficient of determination for model or path I is 0.342, indicating that Knowledge Management (KM) accounts for 34.2% of the variance in Information Technology Capability (ITC), while the remaining 65.8% is influenced by factors outside of these two variables. Similarly, the coefficient of determination for model or path II is 0.284, meaning that KM and ITC together explain 28.4% of the variation in Financial Performance (FP), with the remaining 71.6% attributable to other external factors.

Table 4
R-Square and Q-Square

Model	R-Square	Q-Square	Description
Path I: KM→ ITC	0.342	0.347	Worth
Path II: ITC→ FP KM→ FP	0.284	0.287	Worth

Source: Data processed, 2024

The Effect of Knowledge Management on Financial Performance

The probability value of the effect of Knowledge Management (KM) on Financial Performance (FP) or $p1 = 0.021 < \alpha = 0.05$ (significant) and $\beta 4 = 0.324$ (positive sign) hypothesis 1 shows that Knowledge Management has a significant positive effect on Financial Performance can be accepted, so that the higher the Knowledge Management, the higher the Financial Performance. The results of this study are in accordance with research (Rofiaty et al., 2020) shows that Knowledge Management has a positive significant effect on organizational performance, while the results of research by Stephanus (2012) show that Knowledge Management has a

positive significant effect on organizational performance. (Stephanus, 2012) shows that there is no significant relationship from Knowledge Management to organizational performance.

The results of this research interpretation state that at Bank of Central Java it can be seen in the performance management system that applies at Bank of Central Java that to improve targets and financial performance, knowledge management is needed at the management level to analyze market conditions, analyze consumer behavior, and understand market risks which must then be organized to the ranks of subordinates to superiors to be analyzed in order to obtain innovation and see opportunities to improve company performance.

The Effect of Knowledge Management on Information Technology Capability

Based on the regression analysis above, the results of the first analysis show the probability value of the effect of Knowledge Management (KM) on IT Capability (ITC) or $p2 = 0.010 < \alpha = 0.05$ (significant) and $\beta1 = 0.463$ (positive sign) so that hypothesis 2 (H2) shows that Knowledge Management has a significant positive effect on IT Capability. so that the higher the Knowledge Management, the higher the IT Capability. The results of this study are in accordance with research (Chen et al., 2014; Venkatraman & Tanriverdi, 2004) which shows that IT Capability (ITC) has a significant positive effect on Knowledge Management.

The results of the interpretation of this study state that Knowledge Management at Bank of Central Java has an important role to accommodate knowledge and information technology capabilities are used to mobilize and disseminate resources both information about the financial condition of Bank of Central Java, Market Potential, Market Risk and various kinds of important information for the progress of Bank of Central Java. Information technology plays a role in combining and combining resources and other capabilities.

Influence of Information Technology Capability on Financial Performance

The probability value of the effect of IT Capability (ITC) on Financial Performance (FP) or $p3 = 0.004 < \alpha = 0.05$ (significant) and $\beta3 = 0.491$ (positive sign) hypothesis 3 (H3) shows that IT Capability has a significant positive effect on Financial Performance, so that the higher the IT Capability, the higher the Financial Performance. The results of this study are in accordance with the research of (Bharadwaj, 2000) that IT Capability (ITC) has a positive effect on Financial Performance (FP), while the results of research by Amrul & Hardi (2010) show that IT Capability has a positive effect on Financial Performance. (Amrul & Hardi, 2010) nstates that IT Capability (ITC) has no direct effect on Financial Performance (FP).

The interpretation results of this study state that technological capabilities at Bank of Central Java have an important role in the present and future, information technology capabilities are able to encourage better company performance. By developing information technology capabilities, companies can create competitive advantages that will improve performance. As well as Bank of Central Java's increasingly extensive service facilities in sub-districts throughout Central Java, business expansion outside Central Java, Internet Banking, e-commers and facilities for customer convenience in enjoying banking services.

The Effect of Knowledge Management on Financial Performance Through Information Technology Capability as a Mediating Variable

The probability value of the effect of Knowledge Management (KM) on Financial Performance (FP) through IT Capability (ITC) or $p6 = 0.012 < \alpha = 0.05$ (significant) and the regression coefficient $\beta6 = 0.425$ (positive sign) so that hypothesis 6 (H6) shows that Knowledge Management has a significant positive effect on Financial Performance through IT Capability can be accepted, it can be interpreted that the higher the IT Capability, the higher the effect of Knowledge Management on Financial Performance. The results of the study are a continuation of research from Amrul, Hardi (2010) by adding Knowledge Management (KM) variables and the results have a positive effect on Financial Performance through IT Capability. These results also support the research of (Sari et al., 2014) that Knowledge Management (KM) and the results have a positive effect on Financial Performance.

The interpretation of this research states that in addition to the ability to manage business knowledge, management also needs to improve information technology capabilities that are adequate to support business goals. Management capabilities and information technology owned by companies that have integrated business units will create knowledge management synergies between business units. The real development includes the creation of applications and systems that are integrated with market needs in the current digital era which will significantly affect the performance of Bank of Central Java in competing.

4. Conclusion

The conclusion of this study indicates that Knowledge Management accounts for 34.2% of the variance in IT Capability, while the remaining 65.8% is influenced by factors outside of the examined variables. Similarly, the coefficient of determination for model or path II is 0.284, meaning that Knowledge Management and IT Capability together explain 28.4% of the variation in Financial Performance, with the other 71.6% influenced by external factors.

The hypothesis testing results reveal that Knowledge Management has a positive and significant effect on Financial Performance, confirming Hypothesis 1. This suggests that as Knowledge Management improves, so does Financial Performance. Additionally, IT Capability positively and significantly impacts Financial Performance, supporting Hypothesis 2, implying that greater IT Capability leads to better Financial Performance. Hypothesis 3 is also confirmed, showing that Knowledge Management directly enhances Financial Performance. Lastly, Hypothesis 4 is supported, indicating that Knowledge Management positively influences Financial Performance indirectly through IT Capability, meaning that an increase in IT Capability amplifies the positive impact of Knowledge Management on Financial Performance.

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