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## Article

Does ERP implementation mediate the relationship between knowledge management and the perceived organizational performance of the healthcare sector? Evidence from a developing country

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## INFORMATION & TECHNOLOGY MANAGEMENT | RESEARCH ARTICLE

# Does ERP implementation mediate the relationship between knowledge management and the perceived organizational performance of the healthcare sector? Evidence from a developing country

Mohammad Rezaul Karim<sup>1,2</sup>, Norshahrizan Nordin<sup>1</sup>, Mohd Faizal Yusof<sup>3</sup>,  
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**Abstract:** The objective of this paper is to examine the relationships among knowledge management (KM), enterprise resource planning implementation (ERPI) and perceived organizational performance (POP). Besides, ERP implementation is employed as a mediator in this study to determine the impact of KM on POP. A total of 395 responses were received from healthcare sector staff working as Physicians, nurses, medical technicians, and information system-related officers in the 224 Healthcare organizations of Bangladesh. PLS-SEM was used to analyze the data using SMARTPLS 3.2.9 and SPSS applications. The results revealed that KM factors such as knowledge creation (KI), knowledge sharing behavior (KSB), knowledge implementation (KI), and ERP implementation positively affect the POP. In addition, ERPI mediates the relationship between KM factors (KC, KSB, KI) and POP. The study has contributed by investigating the mediating effect of ERPI between KM and POP, which will help academicians and researchers further investigate the effect on other developing countries' healthcare sectors. Moreover, the study results will help to explore insights on knowledge and technology opportunities for healthcare sector stakeholders and policymakers.

**Subjects:** Management of IT; Behaviour

**Keywords:** knowledge management; ERP Implementation; perceived organizational performance; healthcare; developing country

### 1. Introduction

Knowledge should be organized and handled thoroughly and systematically because it is the organization's most valuable asset (Singh et al., 2021). Given the knowledge-based economy's explosive growth, knowledge is perceived as being essential to fostering success and wealth (Asongu & Odhiambo, 2019). Knowledge is the most effective catalyst for entrepreneurship and organizational success (Zaim et al., 2019). Organizations utilize knowledge most effectively as an intellectual resource through "knowledge management" practices. Pertinently, knowledge management (KM) focuses on controlling essential knowledge and the activities that go along with it,

including production, collection, organization, diffusion, application, and exploitation (Valeri & Baggio, 2022). Moreover, KM emphasizes the company's capability of encouraging personnel to acquire and invent innovative information and thoughts to be employed in policymaking and maintain an advantageous position over competitors (Almajali & AL-Sous, 2021). The outcome of the enterprise for efficient KM is the desired organizational performance. According to Hilton et al. (2021), KM supports managers in examining how an organization performs better than its competitors in terms of profitability, market share, and quality production. In this pertinent, organizational performance demonstrates the workforce's production as measured by the company's income, profit, development, growth, and expansion (Hilton et al., 2021). In this context, Lyubykh et al. (2022) explained that enterprise-oriented performance is a totality of what the workforce does, what a managerial system does, where concrete data must support the outcomes of the job and may be assessed using set standards.

It has become very important for the management to ensure employee technological knowledge and capabilities to improve organization performance. Organizations can survive and explore smoothly only if they possess information management skills, knowledge, and technology among the employees of the organization. For instance, transactions, recording, and data management had to be completed manually, whereas most successful business organizations now utilize ERP (Basri & Arafah, 2023). As a result, processing reports are taking less time than expected. The organization can more thoroughly coordinate its corporate activity with ERP. The business uses ERP software to produce real-time data, enabling the integration of transaction and planning operations (Fauziah et al., 2021). ERP system plays a pervasive role in the organization through connectivity and more knowledge sharing among personnel to achieve optimal organizational performance. The present research intends to investigate the healthcare sector because health information system implementation necessitates extensive effort in structure, resources, staff, and technical know-how (Sligo et al., 2019), especially in developing countries.

Healthcare technology efforts require knowledge management, which needs to be planned for and not taken lightly. Patients' trust in healthcare technology is based on precise and thorough information available through applications on highly protected and accessible platforms., in addition to organizational initiatives (Cook et al., 2016). In this pertinent, prior research from the business domain has been adapted and used the healthcare knowledge management to explore. However, today's healthcare managers can use knowledge management to achieve their organizations' goals, which could lead to a healthcare system in a sustainable position (Karamat et al., 2018). It is critical to remember that the KM process can significantly impact an organization's social and financial outcomes and healthcare quality improvements (Borges et al., 2017). Bangladesh has been included as one of the 57 nations with a severe shortage of health workers worldwide (there are fewer than 2.28 hospitals, physicians, nurses, and midwives per 1000 people and the proportion of hospital beds (4 per 10,000) (Tweena et al., 2021). ICT has benefited the healthcare sector importantly (Mostafa et al., 2010). Healthcare facilities in Bangladesh have a relatively low adoption rate of the ERP system (AlBar & Hoque, 2019). Implementing ERP creates a setting for presenting knowledge in any economy, and researchers are entitled to understand better how KM accelerates company POP (Dumont et al., 2017).

There is a good amount of research conducted on perceived organizational performance. Nevertheless, gaps in the existing body of knowledge require attention. Primarily, several studies have been conducted on KM (Adams & Graham, 2017; Papa et al., 2020) but rare studies have used the three dimensions of knowledge management, i.e. knowledge creation, knowledge sharing behavior and knowledge implementation, simultaneously to represent knowledge management. This study will use all three dimensions to represent knowledge management. In addition, scant studies have used ERP implementation as a mediating variable between knowledge management and perceived organizational performance. The present study highlights the mediating role of ERP implementation in healthcare organizations like, hospitals, and clinics and the proposed mechanism underlying this relationship. Knowledge management impacts ERP

implementation, further influencing positive POP (Rasool et al., 2023). Considering such a relationship, we further argue that KM might influence ERP implementation and affect POP, supporting why we use ERP implementation as a mediator. The study will investigate the following research questions:

**RQ1:** Do KM and ERPI affect POP?

**RQ2:** Does ERPI mediate the relationship between KM and POP?

The remainder of the paper will be divided into four sections. Part 2 will go over the literature, the proposed study framework, and the formation of hypotheses. The research methodology, sampling, data collection, and analysis procedure will be covered in Section 3. Part 4 will create and discuss the study findings. Finally, section 5 will discuss the conclusion, contribution, limitations, and future research directions.

## 2. Literature review

### 2.1. Perceived Organizational Performance (POP)

Organizational performance is the outcome of work that can be done by an individual or group of individuals inside an organization, in accordance with their individual rights and obligations, to lawfully, morally, and ethically accomplish the organization's goals (Anwar & Abdullah, 2021). Performance is the result of a person's work in completing the duties that have been given to him based on his abilities, experience, sincerity, and time (Akbar, 2022)

According to Smriti and Das (2017), an organization's capacity to use and manage different organizational resources to accomplish its goals is called organizational performance or organizational effectiveness. While, Masa'deh et al. (2018) clearly defined organizational effectiveness in the phrase "organizational performance," which is the outcome of all organizational functions working together. Company performance is accompanied by the development of multidimensional structures influenced by various organizational structures and tasks. Superior performance is determined by the "fit" between an organization's resource base and strategic objective.

### 2.2. Resource-based theory & stakeholder theory

In this research, the Resource-Based View (RBV) theory (Barney, 1991) and the Stakeholder theory (Freeman et al., 2018) were used as the underpinning theories to explicate the relationships in the model. The RBV theory states that resources are essential for achieving the highest level of company performance. In this study, the alternatives to resource maximization by knowledge management practices and ERP implementation can be perceived as an important process at the enterprise level. According to Wahda (2017), KM is a crucial tool for achieving POP since its policies encourage knowledge-based intellectual materials from within the organization rather than outside sources. Additionally, ERPI is seen as a technological asset for utilizing internal business opportunities that respond to trends and align with the technical system.

As defined by the stakeholder theory perspective, stakeholders are people or things that can impact how business decisions are made while also having several methods in which they might influence those decisions. In this context, the applications of KM practices are for finding business opportunities, resource maximization, and the company's efforts to perform the interests of its stakeholders in a way that is more performance growth. In this way, the performance of businesses is improved by their ability to handle issues of particular interest to their stakeholders.

### 2.3. Knowledge management

Earlier knowledge management scholars and researchers believe firms can differentiate themselves in one or more disciplines with value, resulting in distinct achievement and superior

organizational performance (Torabi & El-Den, 2017). KM is defined as the capacity for utilizing knowledge (internal and external) to enable greater performance, promote innovation, and increase customer value (Ashok et al., 2016, p. 1008). KM is likely a value-added strategy, allowing organizations to use knowledge and skills to produce value and increase proficiency (Nguyen et al., 2019). According to (Shujahat et al., 2019) organizations with more knowledge rendering proficiencies are more likely to improve an entrepreneur's competitiveness by gathering, organizing, and transforming knowledge into actionable. Knowledge management is concerned with managing essential knowledge and the activities that go along with it, including production, collection, organization, diffusion, application, and exploitation (Valeri & Baggio, 2022).

According to Papa et al. (2020), knowledge sharing, knowledge creation, and knowledge implementation are adequate knowledge resources that build knowledge competency across businesses. Consequently, combining various resources determines the knowledge management strategies, which determines the relationship with organizational performance. As a component of KM, knowledge creation (KC) is a branch of knowledge management that focuses on producing new knowledge (Sin et al., 2015). KC can be viewed as the procedures for managing inventory, predicting, cutting expenses, or communicating with partners of a corporation based on information (Adams & Graham, 2017). It can also relate to how a company shares, picks up and combines knowledge from the outside world or its resources to generate fresh concepts (Jiang et al., 2020). A crucial aspect of the knowledge creation and innovation process involves an organization's capacity to absorb external knowledge, commonly referred to as "absorptive capacity. Cohen and Levinthal (1989, p. 569) originally defined absorptive capacity as the firm's ability to recognize, assimilate, and effectively utilize knowledge obtained from its external environment. Subsequently, Zahra and George (2002) conceptualized absorptive capacity as a set of dynamic capabilities that enable firms to acquire, assimilate, transform, and apply external information. This capacity serves as a prerequisite for the successful implementation of innovation processes within organizations. Absorptive capacity plays a pivotal role in enhancing an organization's ability to facilitate knowledge exchange processes, thereby fostering improvements in innovation performance (Patterson & Ambrosini, 2015), and bolstering competitive advantages (Zahra and George (2002).

Another component of KM, knowledge sharing, is the process of exchanging knowledge and expertise to complete specified tasks in companies (Swanson et al., 2020). In order to maximize employee productivity and organizational competitiveness, organizations are therefore adopting ways to promote knowledge sharing. Information exchange and business decision-making have been greatly aided by digital technologies, for instance, ERP (Cui et al., 2020; Stachová et al., 2020). Finally, the other component of KM is knowledge implementation which makes knowledge more active and relevant for generating the company values and performances.

#### **2.4. ERP implementation**

Enterprise resource planning (ERP) is a software solution that connects vital organizational processes, including manufacturing and logistics, finance and accounting, sales and marketing, and human resources (Ayuninggati et al., 2021). ERP can boost corporate process management, share data and expertise, and cut expenses (Rahardja et al., 2019). ERP implementation is anticipated to fully integrate online data throughout the business, standardize and improve data accuracy, simplify management tasks, and ultimately improve organizational efficiency and effectiveness through optimal use of corporate resources. ERP implementation is a complicated procedure requiring diligent work, careful consideration, and thorough preparation.

According to reports, a lot of businesses have installation failures for ERP systems (Xue et al., 2005). The primary failure factors that need to be addressed are a lack of management support, a poor organizational culture, communication issues, issues with financial management, a lack of clarity regarding the scope, project management issues, a poor project team, mismatched ERP software, poor solution implementer performance, a dated IT infrastructure, a lack of training,

highly customized ERP, poor process design, a lack of user involvement, resistance to change, and unrealistic expectations (Coşkun et al., 2022).

With a vast range of departments and tasks, including clinical, administrative, financial, and regulatory concerns, healthcare organizations are by their very nature complicated (Meskó & Topol, 2023). ERP solutions must accommodate this complexity, and if the installation team is unfamiliar with the specifics of healthcare operations, there may be a mismatch between the needs of the organization and those of the ERP system (Yathiraju, 2022).

### **2.5. Knowledge management and ERP implementation**

Implementation of an ERP system does not end with the system “going live”. It is a continuous process that calls for the implementation of new organizational process changes along with new organizational functionality, modules, updates, and corrections (Kræmmegaard & Møller, 2000). Due to the pervasive nature of ERP systems, their deployment is difficult, expensive, and time-consuming. Despite investing a lot of money, time, and resources, many businesses were unable to deploy ERP effectively. From the standpoint of knowledge management, ERP implementation can be seen as a process of knowledge production, restoration, recovery, transfer, and use even though it is a process of implementing an information system (Samiei & Habibi, 2020). Knowledge transfer will be essential since there are many different talents, specializations, and experiences that must be shared to successfully execute this corporate information system. Fondas (1993) defined three forms of knowledge as being necessary for an ERP project. These knowledge types are referred to as software-specific knowledge, business-specific knowledge, and enterprise knowledge. The success of the project heavily depends on the efficient management of knowledge inside and outside of this group throughout the lifecycle of ERP. ERP implementation is largely knowledge-based, to the extent that the fate of the entire project rests in the hands of a group of knowledgeable people from the entire enterprise (Khan et al., 2023).

The tacit and explicit knowledge of the organizations involves both new knowledge development and knowledge replacement (Pentland, 1995). Applying knowledge management to the deployment of ERP requires knowledge creation. Without the generation of new knowledge, the ERP implementation team as a whole will rely on traditional methods of carrying out tasks that could be carried out more effectively (Palanisamy, 2008)

Members of the implementation team are specialists who put their skills to use in the workplace and gain expertise through the process of implementing ERP; over time, as their understanding of the system grows, they become more valuable to the company (Robey et al., 2002). Effective ERP implementation needs organizational groups to break down barriers to knowledge sharing. ERP systems integrate corporate operations across functions and units, which results in a divergence in the knowledge that organizational members are expected to possess (Baskerville et al., 2000). It was discovered that knowledge sharing influenced the adoption, acceptance, and deployment of ERP systems favorably (Ahmad et al., 2023). It is evident from the literature that KC, KSB, and KI have a positive influence on ERPI in a general organizational context. Hence, the formulations of the hypotheses are as follows based on the context of the study:

**Hypothesis 1a:** Knowledge Creation has a positive relationship with ERPI.

**Hypothesis 1b:** Knowledge Sharing Behavior has a positive relationship with ERPI

**Hypothesis 1c:** Knowledge Implementation has a positive relationship with ERPI.

### **2.6. ERP implementation and perceived organizational performance**

The deployment of ERP can improve individual performance, which can then enhance organizational performance. Employees can work more effectively and make more informed decisions

when they have access to an excellent ERP system. This results in greater staff productivity and job satisfaction, which in turn helps to improve organizational performance overall (Cebekhulu & Ozor, 2022). Additionally, the ERP system helps reduce inefficiencies and enhance data accuracy by combining and simplifying company activities across divisions. Better information can lead to more informed decisions, more effective operations, and more customer satisfaction, all of which can boost overall organizational success. Therefore, successful ERP integration can result in a positive chain reaction that starts with improved individual performance and ends with improved organizational performance (Han, 2021).

Moreover, adopting an ERP system improves the company's operations and activities and helps it become more competitive. The company constantly seeks to adapt the ERP system according to the demands and distinctiveness of its operations, connections with customers, and other factors. Besides, the alterations of any ERP configuration systems would be quite expensive, and their execution would be riskier (Tarigan et al., 2021). With ERP, any employee's tasks can be completed more quickly. Additionally, ERP can compute enormous volumes of data and generate insightful knowledge for decision-making. The ability to improve work performance can be provided by ERP, which ultimately leads to overall business performance. Implementing ERP improves organizational performance in terms of cost savings, improved product quality, faster delivery, more diverse product offerings, and the time it takes to introduce new products from competitors (Hwang & Min, 2015). ERP boosts competitive advantage and organizational performance (Tarigan et al., 2021). Furthermore, according to earlier studies, businesses that effectively utilize the information sources provided by ERP can enhance their operational performance in areas like process standardization and on-time product delivery (Madapusi & D'Souza, 2012). Based on the above discussion on ERPI an POP relationship, it can be observed that earlier studies conducted on developing economies found a positive influence of ERPI on POP. So, this study proposes the following hypothesis.

**Hypothesis 2:** ERP Implementation has a significant positive influence on POP.

### **2.7. The mediating role of ERP implementation**

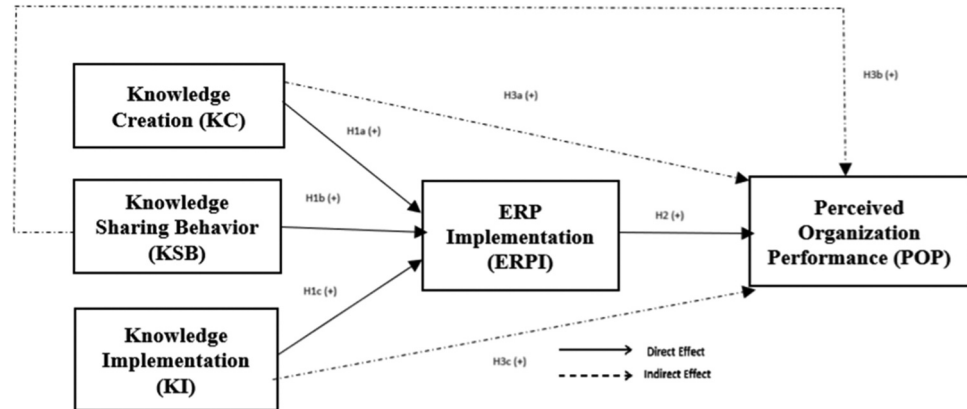
KM is required to raise an organization's innovation and competitiveness level (Rashid et al., 2021). In this pertinent, Wang and Wang (2020) considered KM to be how an organization creates value by utilizing its intellectual resources. However, there is broad consensus that KM is a systematic process of gathering, producing, storing, sharing, and using knowledge. According to Huber (1991), KM can be created, shared, and implemented using technology adaptation. That is why organizations are implementing ERP as a technology advancement. Similarly, KM is concerned about achieving maximum organizational productivity through utilizing its technological resources (Rashid et al., 2021). Moreover, KM also comprises technological knowledge among co-workers and relevant participants. Thus, KM uses or reuses technological knowledge and resources to boost competitiveness (Alavi & Leidner, 2001). Through implementing an Enterprise Resource Planning (ERP), knowledge production, knowledge sharing, and knowledge implementation substantially impact organizational performance (Ramdani & Hadijah, 2020).

The present research assumes that KM entails a methodical process of recognizing, understanding, and codifying knowledge to store and share for its final effective usage for giving benefits to the organizations (Benitez et al., 2018). In this pertinent, Arpacı (2017) confirmed that ERP implementation directly supports KM processes to achieve positive organizational output. The study context based on the healthcare sector of Bangladesh. Based on the previous findings on developing economy this study proposes the following hypotheses.

**Hypothesis 3a:** ERP Implementation mediates the relationship between KC and POP



Figure 1. Research framework.



**Hypothesis 3b:** ERP Implementation mediates the relationship between KSB and POP

**Hypothesis 3c:** ERP Implementation mediates the relationship between KI and POP

Previous studies also report the mediation effects of ERP implementation variables exists between KM and organizational performance (Heredia-Calzado & Duréndez, 2019). In this context, we aim to investigate the nature of the ERP implementation’s mediating effect on KM and POP in Bangladesh healthcare sector. Thus, we propose the following research framework in Figure 1.

This article’s remaining sections are organized as follows: First, we discuss the resource-based view (RBV) theory (Barney, 1991) and stakeholder theory (Freeman et al., 2018) to support the conceptual underpinnings of the postulated link. The literature on KM, ERP implementation, and POP are scrutinized in the next part. Then, we developed the hypotheses to signify the interactions between KM, ERP implementation, and POP. The hypotheses are then put to the test using the approach. In the final section, we examine the main conclusions, their consequences, the constraints of our work, and the directions for potential future research.

### 3. Methodology

#### 3.1. Research methodology

The purpose of the study is to identify the mediating effect of ERPI between KM and POP. therefore the nature of the study is explanatory. The study followed a quantitative method as it requires a quantitative answer. Earlier studies also used quantitative methods (Payal et al., 2019). That means the study will be a cross-sectional study. Therefore, a cross-sectional sample survey is employed in the study to collect data for a single point of time. This study applied a deductive approach because the research is quantitative research that requires identifying relationships between different variables. The study starts with the theoretical foundation followed by hypothesis development, then collects the sample data and confirms the analysis results.

#### 3.2. Developing research instrument

To evaluate the three components of knowledge management as the independent constructs in the present study, five (05) items have been employed for each, which are conceptualized as “knowledge creation” by Henttonen et al. (2016) and Kianto et al. (2016), “knowledge sharing behavior” from Reyhav and Weisberg (2009); and “knowledge implementation” from Ahmad et al. (2023). On the other hand, the mediating variable “ERP implementation” has five items adapted from Acar et al. (2017). Besides, the dependent variable, “perceived organizational performance,” was assessed with six items developed by Al-Okaily et al. (2021). Furthermore, a 5-point Likert scale, from “strongly agree” to “strongly disagree,” was used to measure the independent and dependent categories.

### **3.3. Sampling & data collection**

In Bangladesh, one of the developing nations in South Asia, a quantitative survey was designed and carried out. The respondents of this investigation were senior managers, such as chief operating officers, IT managers, MIS managers, system analysts, human resources (HR) managers, and other departmental ERP-related managers, who took the initiative to implement and enforce ERP systems and were concerned about knowledge management practices in the healthcare sector. Physicians, nurses, and medical technicians were also picked as respondents in addition to these IT-related professionals. We prepared a list of healthcare organizations that had agreed to safeguard privacy when they purchased ERP systems from a well-known ERP software vendor. The chosen vendor provided a contact list with the client's mailing address, email address, and phone number. We distributed a total of 650 questionnaires to these organizations, and in return, we received a total of 429 responses. After careful review, we found 395 of these responses from healthcare professionals and IT experts to be suitable for analysis, as we excluded questionnaires with a significant number of unanswered items from 224 firms. In accordance with established literature, a response rate of 35.7 percent is typically regarded as favorable when gathering data from organizations, as indicated by Baruch and Holtom in 2008. In the context of the current research study, the response rate exceeded this benchmark, reaching 66 percent. All items were originally in English because we assumed all doctors and managers could understand and respond in English.

Moreover, to evaluate and pre-test whether or not the questionnaire items are understandable for the respondents, two multilingual professors with experience teaching MIS at the university level in both Bengali and English were asked to do so. Before conducting the main survey, we conducted a pilot study with 35 randomly chosen doctors and IT managers to ensure the questionnaire items were appropriate for the study's goals. The items were altered to guarantee concision and understandability without redundancy of items in response to the findings of this pilot study, which ensured uniformity.

Targeted respondents were given access to a structured questionnaire. In accordance with Dillman's (2000) suggestion, an email containing a questionnaire and a cover note was sent to each respondent to make it easier for them to provide their answers. The respondents for the current study were chosen using the "convenient sampling" method. Malhotra and Dash (2016) recommended using a non-probability sampling strategy for an unlisted population because convenient sampling is a non-probability sampling methodology.

### **3.4. Data analysis**

The study used partial least square-structural equation modeling (PLS-SEM) to analyze the data and test the proposed model. PLS-SEM is superior to regression analysis when assessing mediation (Hair et al., 2019). SEM integrates path analysis (using a structural model) and factor analysis (using a measurement model) and is a significant and powerful statistical tool. All associations that have been proposed are simultaneously analyzed by SEM. In order to evaluate the components' reliability and validity and the structural fit of our theoretical model, we specifically performed a confirmatory factor analysis (CFA). We applied partial least squares (PLS) in Smart PLS 3.2.9 (Hair et al., 2021) to analyze the data collected. The results of the measurement model estimation are shown in the next part, which also explains the hypothesized findings of the research model shown in Figure 1

## **4. Analysis and findings**

### **4.1. Demographic profile of the respondents**

The current study discovered several demographic factors from samples of healthcare institutions in Bangladesh, including governmental and private hospitals, clinics, and diagnostic facilities. The frequency and proportion of the demographic scenario are shown in Table 1 of the study.

**Table 1. Demographic presentation**

Demographics		Frequency	Percentage
Age	18–25 years	75	18.98
	26–35 years	133	33.67
	36–45 years	102	25.82
	46–55 years	75	18.98
	56 years and above	10	3.95
Gender	Male	266	67.34
	Female	129	32.66
Education	SSC or Equivalent (Medical Technician)	31	7.84
	HSC or Equivalent (Diploma in Nursing/ Pathologist/Radiologist)	70	17.72
	Bachelor's degree (MBBS)	226	57.22
	Master's degree (FCPS/ FRCS)	65	16.45
	Professional or other degrees (MPhil/Doctoral)	3	0.76
Income	Below 25,000	38	9.62
	25,000–50,000	169	42.72
	50,000–100,000	96	24.30
	100,000 and above	92	23.29
Experiences	01–05 Years	100	25.31
	05–10 years	183	46.32
	10–15 Years	92	23.29
	More than 15 years	20	5.06

Table 1 displays the respondents' demographic characteristics. 67.34% of the 395 responders were men, and 32.66% were women. Most respondents (33.67%) were between the age 26 and 35, and 57.22% had an MBBS degree. Most employees had lower mid-level positions, with 46.32% having 5 to 10 years of experience. Most respondents (42.72%) reported monthly incomes between 25,000 and 50,000 TK.

#### 4.2. Common method bias

In this research, Harman single factor tests were employed to assess if “common method variance” in short, CMV is a potential empirical threat. Harman's single-factor test indicates that CMV becomes challenging if the first factor results in the most variance. Performing an un-rotated exploratory factor analysis of all the items, the researchers obtained that the first factor accounts for only 25.7% percent of the variance (see Appendix 1), signifying no major issues with CMV. Based on the outputs from this test, the researchers can claim that this study's findings have not been affected by CMV.

#### 4.3. Measurement model

A confirmatory factor analysis, or CFA, was initially employed after data collection to assess the validity and dependability of the indicators used in this study. The study analyzed the loading scores of the items, average variance extracted, and composite reliability and simultaneously measured the convergent validity. In this pertinent, Table 2 shows that the loading score of each indicator is above the cut-off level [0.60 suggested by Vinzi et al. (2010) and 0.07 recommended by Hair et al. (2013)]. That is why the researchers removed the items having poor leading scores, such as KC5 (0.552), KI2 (0.683), KI5 (0.680), and KSB1 (0.617), as these item's scores were

**Table 2. Output of the measurement model**

Construct	Items	Loadings	CR	AVE
Knowledge Creation (KC)	KC1	0.763	0.877	0.641
	KC2	0.760		
	KC3	0.812		
	KC4	0.864		
Knowledge Sharing Behavior (KSB)	KSB2	0.701	0.872	0.631
	KSB3	0.821		
	KSB4	0.844		
	KSB5	0.805		
Knowledge Implementation (KI)	KI1	0.723	0.828	0.616
	KI3	0.774		
	KI4	0.853		
ERP Implementation (ERPI)	ERPI1	0.825	0.869	0.571
	ERPI2	0.766		
	ERPI3	0.718		
	ERPI4	0.740		
	ERPI5	0.725		
Perceived Organizational Performance (POP)	POP1	0.776	0.906	0.616
	POP2	0.875		
	POP3	0.818		
	POP4	0.711		
	POP5	0.786		
	POP6	0.734		

below 0.70. Furthermore, all the constructs' AVE and CR values were considered appropriate when they exceeded the threshold values of 0.5 and 0.7, respectively, according to the recommendation of Hair et al. (2013). In addition, the composite dependability scores for each construct were higher than 0.70, exceeding the cutoff point. The convergent validity of the measurement model presented for this investigation is justified.

In this research, the discriminant validity was evaluated by the HTMT criterion. According to the recommendation of Henseler et al. (2015), the HTMT criterion in this study was notably better than the Fornell and Larcker criterion (Fornell & Larcker, 1981) (Table 3). Moreover, this research has carried out an HTMT examination in Table 4, representing that all HTMT values have fallen below the cut-off point (0.850) suggested by Henseler et al. (2015). As a result, all latent variables have been considered acceptable for further research. As a result, the measuring model appears to be acceptable for research analysis, validating the reliability and validity of the constructs.

**Table 3. Discriminant validity (Fornell-Larcker criterion)**

	ERPI	KC	KI	KSB	POP
ERPI	0.756				
KC	0.224	0.801			
KI	0.368	0.195	0.785		
KSB	0.473	0.233	0.494	0.795	
POP	0.348	0.289	0.254	0.278	0.785

**Table 4. Discriminant validity heterotrait-monotrait (HTMT) ratio**

	ERPI	KC	KI	KSB	POP
ERPI					
KC	0.240				
KI	0.440	0.263			
KSB	0.544	0.277	0.655		
POP	0.356	0.333	0.334	0.326	

KC = Knowledge Creation, KSB = Knowledge Sharing Behavior, KI= Knowledge Implementation, ERPI = ERP Implementation, POP = Perceived Organizational Performance

#### 4.4. Structural model

The researchers employed Smart-PLS version 3.2.9 to assess the structural model and to inspect the postulated relationships. Firstly, the research model’s explanatory power was determined based on  $R^2$  values. In this study,  $R^2$ , which represents a predictor’s explanatory power on outcome construct, value for ERPI was 0.258, representing that KC, KSB, and KI explain 25.8% variance in the ERPI. Furthermore,  $R^2$  for POP was 0.121, implying that KC, KSB, KI, and ERPI explained a 12.1% variance in the POP.

Moreover, the blindfolding technique was applied using omission distance 7 to assess the path model’s predictive relevance. It was found that Stone-Geisser’s  $Q^2$  value (Geisser, 1974; Stone, 1974) for both the endogenous constructs were above zero ( $Q^2_{ERPI}=0.129$  and  $Q^2_{POP}=0.063$ ) in Table 5, indicating acceptable cross-validated predictive relevance of the path model (Hair et al., 2021).

Furthermore, this study also found that VIF values in Table 6 for all the constructs were below 3.3, signifying no multicollinearity issues (Amin & Salehin, 2022).

Subsequently, a bootstrapping process (one-tailed) was applied using 5000 subsamples to discover the path coefficients weights and significance (Hair et al., 2021). As evident from Table 7, the paths from KC to ERPI ( $\beta = 0.106$ ;  $p < .05$ ), KSB to ERPI ( $\beta = 0.366$ ;  $p < .05$ ), KI to ERPI ( $\beta = 0.166$ ;  $p < .05$ ), and ERPI to POP ( $\beta = 0.348$ ;  $p < .05$ ) are positive and statistically significant. Therefore, H1a, H1b, H1c, and H2 were strongly supported.

**Table 5. Predictive relevance of the path model**

Dependent Variables	$R^2$	Adjusted $R^2$	$Q^2$ Values
ERPI	0.258	0.252	0.129
POP	0.121	0.119	0.063

**Table 6. VIF values for constructs**

	ERPI	KC	KI	KSB	POP
ERPI					1.000
KC	1.067				
KI	1.334				
KSB	1.357				
POP					

**Table 7. Hypotheses testing (direct effects)**

Hypotheses	Paths	Std. Beta	Std. Error	T Statistics	P Values	Decisions
H1a	KC → ERPI	0.095	0.114	2.085	0.038	Supported
H1b	KSB → ERPI	0.377	0.364	7.495	0.000	Supported
H1c	KI → ERPI	0.149	0.173	2.863	0.004	Supported
H2	ERPI → POP	0.215	0.354	4.368	0.000	Supported

\* KC = Knowledge Creation, KSB = Knowledge Sharing Behavior, KI= Knowledge Implementation, ERPI = ERP Implementation, POP = Perceived Organizational Performance, S = Supported, NS= Not Supported

**Table 8. Specific indirect effect**

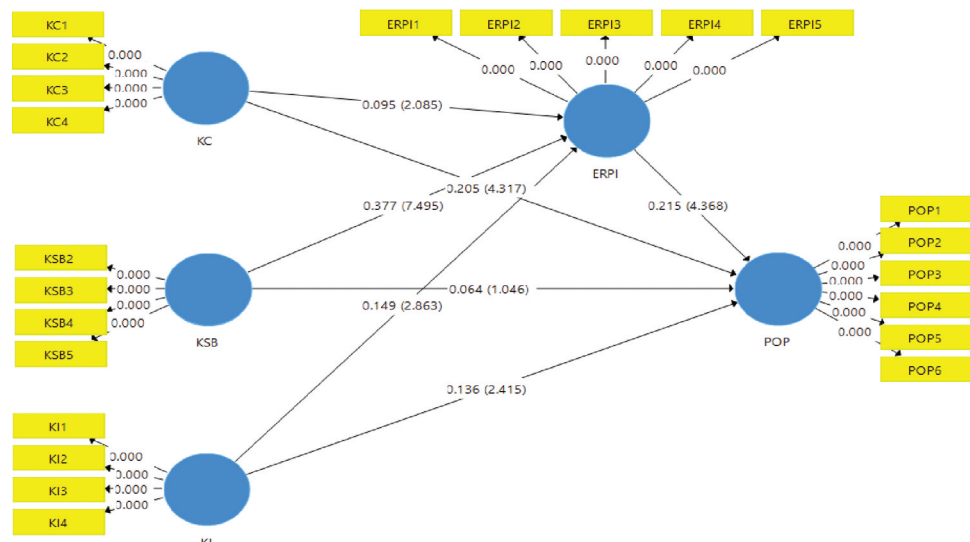
Hypotheses	Paths	Std. Beta	Std. Error	T Statistics	P Values	Decisions
H3a	KC → ERPI → POP	0.037	0.041	2.264	0.024	Supported
H3b	KSB → ERPI → POP	0.127	0.129	5.617	0.000	Supported
H3c	KI → ERPI → POP	0.058	0.061	2.767	0.006	Supported

Based on the outputs mentioned above, the researchers confirm that favorable perception about ERP implementation increases because of greater degree of knowledge creation, knowledge sharing behavior, and knowledge implementation. On the other hand, a favorable perception toward ERP implementation leads to a higher degree of performance in an organization.

However, based on the concept of Preacher and Hayes (2008), the mediating effect was investigated of ERP implementation on the relationship between the three components of knowledge management and POP. Table 8 shows the results of the indirect impacts of the structural model. All the p-values are below 0.05. That means ERPI mediates the relationship between all three dimensions of knowledge management (KC, KSB, KI) and POP. Consequently, H3a, H3b, and H3c are supported. The results from SMARTPLS are shown in Figure 2.

**Figure 2. PLS-SEM results.**

Values in the middle demonstrate the path coefficient values and T-values (within the bracket) of the paths.



## 5. Discussion

In the current study, the researchers looked into the effects of knowledge management (KM) on perceived organizational performance (POP), including the mediating contributions of ERP implementation (ERPI) with special regard to the healthcare sector in Bangladesh. The study's findings were largely consistent with those of earlier studies; however, some contradicted earlier literature. The first result of this research showed a positive relationship between knowledge creation (KC) and ERPI. In line with that, prior researchers Jeng and Dunk (2013) found a similar relationship in the context of China's footwear and apparel sector and Ramdani and Hadijah (2020) in the Textile sector of Indonesia. One of the reasons behind this result is Effective knowledge creation aids in the development of comprehensive training programs for healthcare employees. As a result, it ensures that users understand how to use the ERP system efficiently, reducing the learning curve and minimizing errors during the transition.

Similarly, the second result shows a positive connection between knowledge-sharing behavior (KSB) and ERPI, which supports the previous study. Jones et al. (2006) discussed several case studies in the USA. In healthcare sector, knowledge sharing enables employees to share their expertise with colleagues who may be less familiar with the ERP system. This informal training and knowledge transfer help users become proficient in using the system more rapidly.

The third result shows a positive association between knowledge implementation (KI) and ERPI. In this regard, Sharma and Foropon (2019) claimed that KM practices would be dissimilar in South Asian countries compared to other developed countries in Europe and North America. The reason behind this result is that knowledge implementation includes training employees on how to use the ERP system effectively. When employees share their knowledge and expertise with their peers, it helps others become proficient in using the system, reducing the learning curve and ensuring that the system is used to its full potential.

Moreover, the fourth result of this study was found to support the initial assumption of the study. Hence, the result revealed that ERPI significantly contributes to POP. In support of that, previous research augment showed some relevant findings from the studies of Zaim et al. (2019). However, Asongu and Odhiambo (2019) revealed that sometimes it becomes difficult to cope with the traditional KM process, whereas; ERPI can contribute positive outcomes in the POP. Similarly, Valeri and Baggio (2022) discovered that the reasons behind this kind of result are manager-worker knowledge level, positive perception of employees in a radical change in the organizational system, and a supportive environment for new system adaptation. Besides, Almajali and AL-Sous (2021) strongly claimed that KM and ERPI, as a combination, can change traditional managerial efficiency.

In another research, Hilton et al. (2021) explained that the area of different studies may be similar. However, the result can be varied because of the diverse nature of the research context, region, tradition, and respondents' perceptions. Furthermore, this study's fifth, sixth, and seventh results also found supportive outcomes, although indirect effects have been assumed in those hypotheses. In explanation, ERPI partially mediates the relationship between KM (KC, KSB, and KI) factors and POP. Consequently, previous research augments of Lyubykh et al. (2022) supported the present results. For instance, Panuluh and Gilang (2019) explored from their findings that because of ERP-oriented organizational resources, KC, KSB, and KI can smoothly contribute to employee motivation for the best work performance that ultimately leads to organizational best performance. Additionally, Parashakti et al. (2020) strongly recommended that KM practices are unique for facing the challenges of global crisis. Therefore, the current study offers the historical context for these kinds of empirical findings, essentially typical perspectives of managers employed in Bangladesh's healthcare industry. For more explanation, the employees of this industry believe that their views are like all KM activities, and ERPI has productive contributions to generate the efficient and effective performance of the organization.

## 6. Conclusion

Knowledge management and ERP implementation are essential components for enhancing perceived organizational performance for any organization. Both contribute to enhancing efficiency, informed decision-making, and overall competitiveness. However, Healthcare facilities in Bangladesh have a relatively low adoption rate of the ERP system, which hinders the organization's performance. So, this study aimed to find out the mediating effect of ERPI between KM and POP. The study used PLS-SEM to analyze the data collected from 396 healthcare professionals from 224 organizations. The result revealed that KM factors (knowledge creation, knowledge sharing behavior, knowledge implementation) significantly impact ERPI. In addition, ERPI has a significant positive impact on POP. Moreover, ERPI partially mediates the relationship between KM factors and POP. It is expected that the outcomes of the present research will show the present KM scenario of the healthcare sector in Bangladesh to corporate executives, regulators, business leaders, and scholars. Based on their limited resources, the administrators must develop policies to improve the overall performance of healthcare institutions. This area's investigators may conduct theoretical research to expand or strengthen all KM dimensions and coordinate the best operations. Additionally, adapting the framework fully or partially to other economic sectors might be impossible. The emerging research approach can also be used in this study in different other areas by the next generation of researchers.

### 6.1. Theoretical implications

This study makes several theoretical contributions. The proposed model explains individual managers' perceptions of KM, mainly how KM and ERPI influence the activities to achieve maximum company performance. The findings align with Resource-Based View (RBV) theory (Barney, 1991) and Stakeholder theory (Freeman, 1984) as the foundation for this study's theory. This study shows that KM encourages KC, KSB, and KI to affect the POP. Besides, since there is a direct correlation between knowledge usage and organizational performance, KM raises employees' awareness of the extreme measures that the organization must take to attain its goals. Such a linkage would strengthen management's extra effort for the organization's success.

The study contributed into the literature by considering the three dimensions of knowledge management, i.e. knowledge creation, knowledge sharing behavior and knowledge implementation, simultaneously to represent knowledge management. In addition, the study highlights the mediating role of ERP implementation in healthcare organizations like, hospitals, and clinics and the proposed mechanism underlying this relationship.

### 6.2. Practical implications

The present research provides some vital practical implications. For instance, firstly, in this research, the perceived benefits of the KM system showed a positive correlation to the company's performance. In this regard, previous scholars like Singh et al. (2021) advocated that the policymakers should clear the benefits of KM of the organization. So, this study will open the minds of the executives regarding the competitive advantage that can be generated by establishing a KM system. Secondly, the current findings showed similar results to Thomas and Lamm (2012), which are supposed to contribute to the cooperation of knowledge managers in the service industry, such as the health sector. Finally, the study's findings will help to create positive attitudes of investors and policymakers on the KM system, and ultimately, organizations are more eager to participate in a knowledge transfer system when they think that it will result in a win-win consensus. This finding aligns with the previous result explored by Han et al. (2016).

### 6.3. Limitations and future research directions

There are a few drawbacks in the existing research.: Firstly, the surveyed population was restrictive. Though the selected healthcare organizations covered the most significant part of the total population, they do not represent the overall national and global perspective. Further studies could expand the population to include all categories of healthcare organizations, thereby generalizing this particular sector. Secondly, it was complex to ensure that all the respondents had clear



concepts and appropriate knowledge regarding the KM system, ERPI, and its positive outcomes. Finally, the samples chosen for this study belong only to a particular population stratum and a single service sector category, healthcare. Hence, the outcomes should not be generalized in another industry context without providing the utmost care.

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**Appendix**

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.686	25.716	25.716	6.686	25.716	25.716
2	2.862	11.009	36.726			
3	2.420	9.306	46.032			
4	2.136	8.214	54.246			
5	1.407	5.412	59.657			
6	.962	3.701	63.359			
7	.858	3.301	66.659			
8	.762	2.930	69.589			
9	.742	2.855	72.444			
10	.675	2.597	75.040			
11	.672	2.586	77.626			
12	.645	2.483	80.108			
13	.569	2.188	82.296			
14	.547	2.105	84.401			
15	.504	1.937	86.338			
16	.465	1.789	88.127			
17	.452	1.740	89.867			
18	.427	1.642	91.509			
19	.362	1.391	92.900			
20	.350	1.344	94.244			
21	.318	1.223	95.468			
22	.276	1.062	96.530			
23	.270	1.038	97.568			
24	.251	.967	98.535			
25	.208	.798	99.334			
26	.173	.666	100.000			

Extraction Method: Principal Component Analysis.