

Knowledge Management Practices and the Performance of Public Sector Organizations: The Role of Information and Communication Technology

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Abstract

This study investigates the relationship between knowledge management practices and the performance of Ethiopian public sector organizations. It includes information and communication technology (ICT) as one of the independent variables, as using ICT has become crucial in public sector management. We have used both quantitative and qualitative data collected from a survey of 756 respondents from public sector organizations. The study reveals that although existing knowledge practices are utilized, the development of new knowledge needs to be improved, and knowledge-creation practices need to be better established. Moreover, human resource management systems, lack of information communication technology, failure to design a knowledge management strategy, and inadequate commitment and support from leadership are contextual factors that affect knowledge management. Nonetheless, the study proves that knowledge management positively impacts organizational performance, with knowledge exploitation being more effective than knowledge exploration. As a result, the study suggests designing and implementing a knowledge management strategy that aligns with organizational objectives and fosters knowledge sharing and transfers through human resource management systems that recognize and incentivize experienced and high-performing employees.

Keywords: Knowledge, Performance, Sharing, Public sector, ICT, SEM modeling

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The impact of effective knowledge management (KM) on organizational performance is well recognized. Its role in explaining the difference in the performance of the firms has been a passionate debate among managers, consultants, and academics (Martin-de et al., 2011). In the present turbulent and continuously changing global environment, adopting and implementing effective knowledge management strategies and practices have become crucial in achieving sustained competitive advantage (Nieves & Haller, 2014). The knowledge-based perspective of the organization conceptualizes firms as bearers of tacit, social, and path-dependent organizational knowledge (Jennex, 2005). Effective knowledge management practices significantly benefit individual and organizational success, such as innovation, creativity, and performance (Fullwood et al., 2018).

Knowledge can be divided into two categories (Hareya, 2011): explicit and tacit. *Tacit knowledge* encompasses personal, intangible, and inherent knowledge closely tied to actions, procedures, customs, dedication, principles, ethics, and feelings. It resides in the cognitive faculties of individuals and is acquired through education and hands-on

involvement. In contrast, *explicit knowledge* is systematic knowledge in documented and printed forms, such as books, articles, and reports (Faruk, 2015). Knowledge's tacit and personal nature is crucial for innovation and organizational capability (Varun Grover, 2001). Tacit knowledge is acknowledged to be hard to imitate or copy, substitute, transfer, and rare (Ambrosini & Bowman, 2002).

Although knowledge management has proven to benefit organizational and individual-level performance outcomes, it is generally believed that scant implementation of these practices is used in developing countries (Mpofu, 2011). Public sector organizations are encountering growing pressure to innovate, sustain quality service delivery, and improve performance. Knowledge management practices are found to be instrumental and potentially helpful in dealing with these unstructured problems, lack one-off solutions, and require managers to create, share, and use knowledge within and across public sector organizations (Ejeh, 2017).

The earlier research in this area is confined mainly to developed countries and private manufacturing industries, particularly the health sector. Moreover, the focus was on exploring the effect of explicit knowledge management practices rather than the tacit knowledge dimension (Asrar-ul-Haq & Anwar, 2016). Knowledge is a crucial resource of public services; effective knowledge management and knowledge sharing among employees have become a substantial management challenge for delivering outstanding services to the public at all levels. *Information communication technology* (ICT) has become crucial in achieving and sustaining organizational objectives, strategies, and success (Adeola & Evans, 2020). The emergence of technology and internet connectivity has brought more speed and flexibility, sharing of knowledge, collaboration, lower costs, and improved citizen satisfaction by integrating customers' and suppliers' demands (Mohamed, 2006). However, more evidence is needed on this. The current research aims to address this gap in knowledge by investigating the implementation of knowledge management practices in Ethiopian public sector institutions (Saini, 2013). Specifically, the study endeavors to appraise the existing knowledge management practices within the public sector by employing Ethiopian public sector organizations as a case study. Therefore, this study represents a step toward evaluating the knowledge management practices in Ethiopian public sector organizations. Ethiopia has significantly improved in rolling out ICT infrastructure to various parts of the country through rural connectivity, Schoolnet, AgriNet, and WoredaNet (Adam, 2007). Although meaningful success is achieved, a significant amount of work remains to be done to turn ICT into a tool to facilitate the creation, acquisition, sharing, and utilization of knowledge. Moreover, the results of this study are expected to support the initiatives started by the current government of Ethiopia in revolutionizing and digitalizing the public sector. Public sector organizations are expected to benefit from the results of this study in terms of identifying the role of ICT and the effect of knowledge management on performance.

Review of Literature

Conceptual Review

Knowledge has been identified as the most fundamental and strategic resource for any organization (Ismail & Yusof, 2009). In the current competitive environment, knowledge management has become essential for public sector organizations to improve service delivery. Thus, public sector organizations should formulate policies and strategies for effective knowledge management and sharing to enhance service delivery.

Knowledge Exploration and Exploitation

Knowledge exploitation is refining and extending existing competencies, technologies, and paradigms, leading to positive, near, and predictable returns. At the same time, exploration is the experimentation of new alternatives, with returns far away from time, uncertain, and usually negative (Popadiuk & Vidal, 2009).

March (1991), in his seminal article, looks at organizational learning from an organizational learning point of view and argues that there is a relationship between exploration and exploitation in the adaptive process in organizations. *Exploration* refers to the actions and activities related to research, search, risk, experimentation, playing, flexibility, discovery, and innovation. *Exploitation* refers to refinement, choice, production, efficiency, selection, implementation, and execution (March 1991).

Exploration and exploitation require significantly different structures, processes, strategies, capacities, and cultures. In general, exploration is associated with an organic structure, systems that are not rigid, improvisation, and autonomy. Conversely, exploitation is related to mechanical structures, more rigid systems, routine, control, and bureaucracy (Holmqvist, 2004).

Knowledge Conversion Processes

Knowledge management (KM) can be viewed as a system that integrates people, processes, and technology to achieve long-term and sustainable results by increasing performance through learning (Firestone et al., 2005). Choo and Bontis (2002) point out that the most widely cited aspect of the model is the continuously expanding cycle of four processes that create knowledge by converting tacit knowledge into explicit knowledge (the socialization-externalization-combination-internalization or SECI model). An organization creates knowledge through the interactions between explicit knowledge and tacit knowledge. During this knowledge conversion process, explicit and tacit knowledge grows in quality and quantity.

Knowledge Management and Performance

Knowledge is a critical asset for any company. Understanding how knowledge integrates and flows throughout the organization is necessary to streamline and improve the efficiency and quality of organizational processes. Moreover, an organization's competitive advantage and operational success largely depend on its ability to successfully identify, integrate, and utilize knowledge.

Empirical Review

In the last two decades, knowledge management and its impact on organizational performance have received much attention from academicians and practitioners (Tadesse, 2020). An excellent review of the relationship between knowledge management and organizational performance can be seen in Andrej (2017). However, only some studies use structural equation modeling (Rasula et al., 2012). According to McKeen, Zack, and Singh (2009), the assumption underlying knowledge management practice is that organizational performance will improve by identifying, locating, and sharing useful knowledge. In prior empirical research, knowledge management has been linked with non-financial performance outcomes such as quality, innovation, and productivity (Alavi & Dorothy, 2023).

Several studies have been conducted on knowledge management practices, especially

in assessing knowledge-sharing practices and the existence of knowledge management strategies. Empirical evidence demonstrated that staff turnover, both internally and outside, highlighted the need for a more strategic approach to knowledge management (Baud et al., 2014; Iqbal et al., 2015; Kruger & Johnson, 2010). Likewise, the development strategy for knowledge management was strongly recommended to be supported by the decision-makers (Jennex, 2020).

Previous empirical evidence has demonstrated that information and communication technologies (ICT) positively affect public sector management in Africa, including Ethiopia, and there is a bi-directional causality between ICT and public sector management, suggesting a mutually reinforcing relationship (Olaniyi, Evans 2018). *Public-private partnerships* (PPPs) have been recognized as a means to enhance public information services in Ethiopia. However, the readiness of the public sector to form partnerships with the private sector is minimal, highlighting the need for collaboration and addressing soft factors for successful implementation (Temesgen, A. et al. 2015)

In the public sector of Ethiopia, knowledge management has become increasingly important in recent years to improve organizational performance. Effective knowledge management practices can help public sector organizations leverage their intellectual capital and enhance their effectiveness and efficiency. The strategies and practices adopted by the public sector include using knowledge management tools and technologies, establishing knowledge-sharing networks and communities of practice, and developing knowledge management policies and procedures.

Quite a few studies are available in the Ethiopian context and use simple regression methods (Hussen, 2020). They must be more comprehensive as they study individual university cases (Jemal & Zewdi, 2021). The research conducted by Amare (2014) aimed to explore solutions for knowledge sharing in the banking industry. Based on the research conducted by Amare (2014), knowledge-sharing behavior was predicted by an individual's intention to favor Information exchange and perceived behavioral control. Knowledge workers' attitudes about sharing knowledge, including subjective norms and perceived behavioral control, predicted knowledge-sharing intentions. Thus, the strength of social networks and trust positively influenced positive attitudes toward information sharing and subjective norms around knowledge sharing.

The research conducted by Gebreslassie (2011) aimed to investigate the knowledge-sharing culture among employees in Mesfin Industrial Engineering (MIE). Thus, the study identified factors that affect knowledge sharing and mechanisms of knowledge sharing in the organization. The factors identified in the research were (1) leadership, (2) organizational culture, (3) organizational structure, (4) social structure, and (5) information technology infrastructure. Accordingly, the study reached a possible strategy of knowledge sharing that could enhance the organization's performance.

Digital knowledge management in Ethiopia's public sector is an area that requires improvement and attention. Several studies have highlighted the challenges and opportunities in this regard. The implementation and use of knowledge management technology in Ethiopian hospitals are still low, indicating the need for increased efforts to develop strategies and policies for its implementation and use (Mniyichel et al., 2021). Additionally, the adoption of digital government innovations in Ethiopia is influenced by the public service experience, with longer tenure in the public service positively moderating the perception of ease of use of digital innovations (Ana, Alvarenga, et al., 2020).

Overall, the study's findings add to existing knowledge-sharing research by illuminating the factors influencing people's knowledge-sharing actions. Additionally, the study's results also produce insights for the context-based framework and strategic roadmap, and organizations could use these insights to develop realistic strategies conducive to

knowledge sharing. The remaining sections are organized as follows:

- Discussion of the data and methods is provided in section 3,
- Analysis and findings in section 4, and
- Conclusion and policy suggestions in section 5.

Data and methods

The study used both quantitative and qualitative data. Probability and non-probability (or purposive sampling) techniques were applied to collect data. Probability sampling approaches include choosing a sizable number of units from a population or particular subgroups (strata) of a population. They are typically utilized in statistically focused studies. By reducing the possibility of selection bias and controlling for the potential influence of known and unknown confounders, this sampling technique helps to assure the generalizability of findings. Accordingly, based on the probability sampling technique, a simple random sampling technique was used to select respondents for survey questionnaires.

Conversely, non-probability or purposive sampling techniques are primarily used in qualitative studies and involve selecting units (e.g., individuals, groups of individual institutions) based on specific purposes associated with answering a research study's questions (Teddlie & Yu, 2007). The probability sampling technique collects quantitative data through self-administered survey questionnaires. The sample size is determined based on a distinct target population comprising organizations that are more exposed to knowledge management and practices that are more inclusive. Therefore, the sample is divided into the Addis Ababa Cluster and Regional Cluster that comprise Social Sectors (Education, Justice, and Health); Economic and Finance Sectors (Finance, Agriculture, and Transport); Capacity Building Sectors (Civil Service Commission, Policy Study, Management Institutes, and Research Development Institutes). These are selected to acquire a complete and comprehensive understanding of this study context.

These organizations are staffed with professional and skilled human resources specializing in research and development. Moreover, these organizations are highly exposed to the implementation of knowledge management, which is highly related to research and development practices. According to the Civil Service Commission (CSC) (2018), the entirety of civil servants in federal and regional states throughout the country specified a total of 1,742,402 distributed to 1,097,341 (67%) male as well as 645,063 (37%) female civil servants; hence, 158,617 (9.1%) and 1,583,787 (90.9%) are from federal and regional public sectors organizations respectively.

Similarly, professionals or experts that have a first degree and above in the selected four regional states, Addis Ababa City Administration, and federal public sector organizations upsurge the total of 1,567,532; thus, detailed as 100,173 from Tigray, 367,301 from Amhara, 515,624 from Oromia and 310,419 from SNNPRS as well as 115,398 from Addis Ababa and 158,617 from the federal public organization to associate the main purposes of the study context.

In this regard, the following formula provided by Yamane (1967) and Calderon and Gonzales (1993) is employed to decide the sample size for both clusters: $n = \frac{N}{1 + Ne^2}$ Where: n = the size of the sample N = the size of the population e^2 = the margin of error is 5% (0.0025) Thus, the actual sample size for both clusters is calculated as shown below: $n = \frac{274,015}{1 + 274,015 (0.05)^2} = 399$ (Addis Ababa and Federal Cluster) and $n = \frac{1,293,517}{1 + 1,293,517 (0.05)^2} = 400$ (Regional Cluster).

Quantitative and qualitative data types were utilized to investigate the current knowledge management practices in Ethiopian public sector organizations. On the other hand, to present a wide range of information, both primary and secondary data sources were utilized in the study to collect quantitative and qualitative data types. Self-administered survey questionnaires and semi-structured interviews were used as primary data sources.

Exploratory factor analysis and confirmatory factor analysis were used to identify the variable's underlying dimension. Computerized quantitative data analysis software was used to test the statistical significance of the data. Hence, SPSS (Statistical Package for Social Science) software was used to identify the association/ relationship between variables, and AMOS (Analysis of Moment Structures) was utilized to test the relationship between the latent variables using structural equation modeling (SEM). On the other hand, thematic analysis was used to analyze the qualitative data gathered through key informant interviews.

Data Analysis and Findings

As discussed in the sampling strategy in the previous section, the total sample size of this study was 799. The sample was collected from two clusters (Federal and Addis Ababa Cluster, and Regional Cluster). The first cluster consists of 399, and the second consists of 400 sample units. Accordingly, based on the plan, the sample size was collected from both research sites/clusters. However, out of the total questionnaires collected during data screening, 43 needed to be completed and removed from the analysis. A few missing values were imputed using the mean imputation method.

Table 1
Demographic Profile of the Respondents

Variables		Frequency	Percent (%)	
Gender	Male	463	61.2	
	Female	293	38.8	
Education	Degree (BA/BSC)	446	59.0	
	Masters (MSC/LLM)	280	37.0	
	PHD	18	2.4	
	Other	12	1.6	
Experience	Mean	SD	Minimum	Maximum
	7	4.942	1	35
Age in Years	34	7.034	19	58

Note: Table 1 displays the demographic characteristics of respondents.

As can be seen from Table 1, out of the total sample size, 463 (61.2%) of the respondents are male, and the rest, 293 (38.8%), are female. Regarding the educational level of the respondents, the majority of the respondents are degree holders, which indicates that they can read and understand the questionnaire items to respond accordingly. Out of the total respondents, 446 (59%) are first-degree graduates, 280 (37%) of the respondents are second-degree or master's degree holders, 18 (2.4%) of the respondents are Ph.D. holders, and the remaining 12 (1.6%) of the respondents are out of the listed educational level categories and fall under the category of other. Moreover, the descriptive statistics result shows that the mean work experience of respondents in years is 7, with a standard deviation of 4.9. The minimum work experience is one year, and the maximum is 35 years. The average age of

respondents is 34 years, with a standard deviation of 7.034. The minimum age of the respondents is 19 years, and the maximum is 58 years.

Reliability and Validity

The reliability test was carried out to determine the quality of the measurement items. Internal consistency reliability implies that multiple items measure the same construct and inter-correlate with one another (Saini, 2013). Accordingly, Cronbach's alpha coefficient measured each research variable's reliability. A value of .70 and above has been considered the threshold value to achieve the internal consistency of research constructs. The result of the research constructs' reliability (internal consistency) is displayed in Table 2.

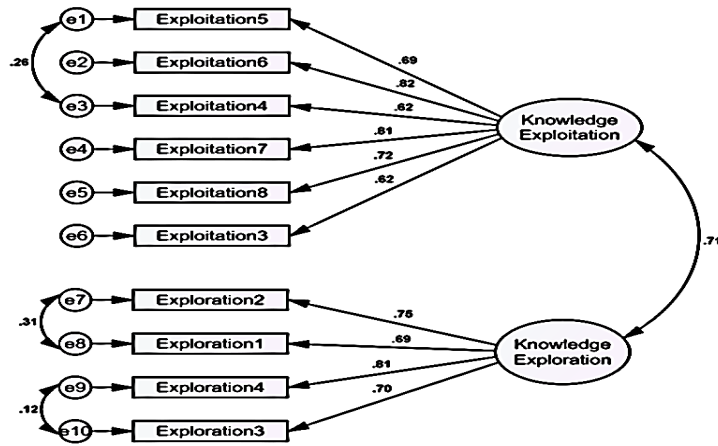
Table 2
Reliability Test

No	Variables	No of Items	Cronbach's Alpha
1	Knowledge Management Practices	12	.900
2	Knowledge Creation & Conversion	14	.906
3	Knowledge Sharing	6	.857
4	Strategy	6	.829
5	Information Communication Technology (ICT)	4	.856
6	Culture	8	.813
7	Human Resource Management	6	.856
8	Leadership	9	.883
9	Performance (Outcomes)	6	.902

Knowledge Management Practices

During the first exploratory factor analysis (EFA), items 1 and 2 from the knowledge exploitation scale items loaded below the minimum threshold value. Since the initial EFA did not achieve the model fit measures, the EFA was again performed after removing item 1 and item 2 from the knowledge exploitation scale items. Therefore, the final EFA produced perfect model fit measures, as indicated in the following section.

The Kaiser-Meyer-Olkin (knowledge managementO) measure of sampling adequacy was done before the factor analysis to compare the magnitudes of the observed correlation coefficients to the magnitudes of the partial correlation coefficients. The large value of the knowledge managementO measure indicated that factor analysis of the variables was a good idea (Saini, 2013). Knowledge managementO and Bartlett's tests both showed a value of 0.899 at a significance level of 0.000, with a degree of freedom of 45 and an approximate chi-square (X^2) value of 3511.680. This shows that the degree of common variance among the variables was quite high; therefore, factor analysis could be conducted.

Figure 1*Results of Structural Equation Modeling for Knowledge Management Practices*

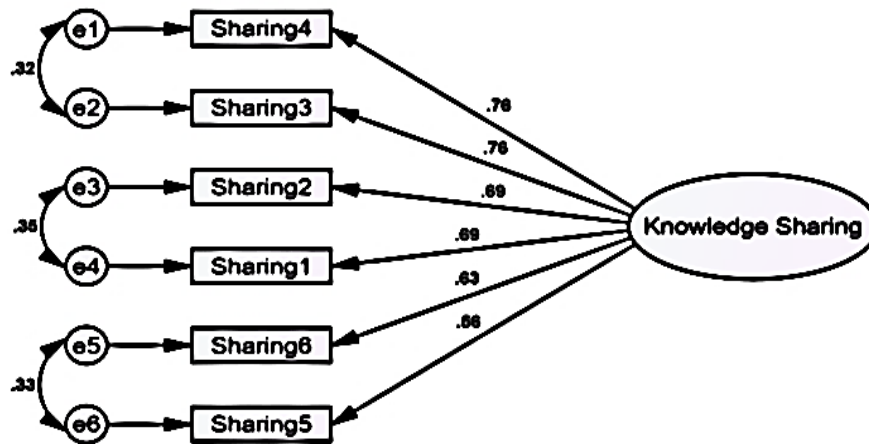
Based on the SEM results from AMOS, it was confirmed that both knowledge management practices had achieved the model fit measurement indices. As indicated in Table 3, the entire model fits measures of knowledge management practices achieved above the minimum threshold value.

Table 3*Model Fit Measures for knowledge management Practices*

Measure	Estimate	Threshold	Interpretation
X2	116.074	--	--
DF	31	--	--
CMIN/DF	3.744	Between 1 and 3	Acceptable
CFI	0.976	>0.95	Excellent
SRMR	0.037	<0.08	Excellent
RMSEA	0.060	<0.06	Acceptable
PClose	0.069	>0.05	Excellent

Knowledge-Sharing Practices

Knowledge-sharing practices in this research are treated as an independent construct. Therefore, all the statistical procedures are performed independently. An exploratory factor analysis followed by a confirmatory factor analysis was conducted to test the items' dimensionality and establish the construct's validity and reliability. The knowledge management O and Bartlett's tests showed a value of 0.829 at a significance level of 0.000. This depicted that the degree of common variance among the variables was relatively high; therefore, factor analysis could be conducted.

Figure 2*Measurement Model for Knowledge-Sharing Practices*

Note: The construct was measured with six items, all the items have scored a loading above the minimum threshold value.

Knowledge sharing is the most important dimension of knowledge management. Human resource management and technological infrastructures are the most determinant factors for knowledge sharing and transfer. Reward systems and motivation are the most influential factors for effective knowledge sharing and transfer among employees. For example, Gebreslassie (2011) has found that the major factors affecting knowledge sharing were (1) leadership, (2) organizational culture and structure, and (3) information technology infrastructure.

Knowledge Conversion Practices (or Processes)

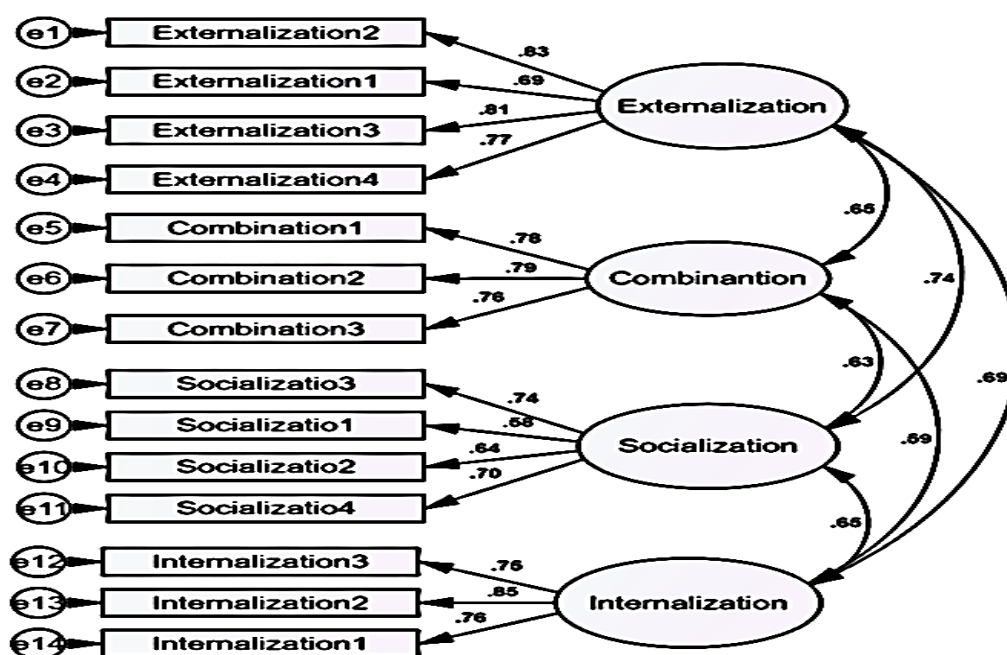
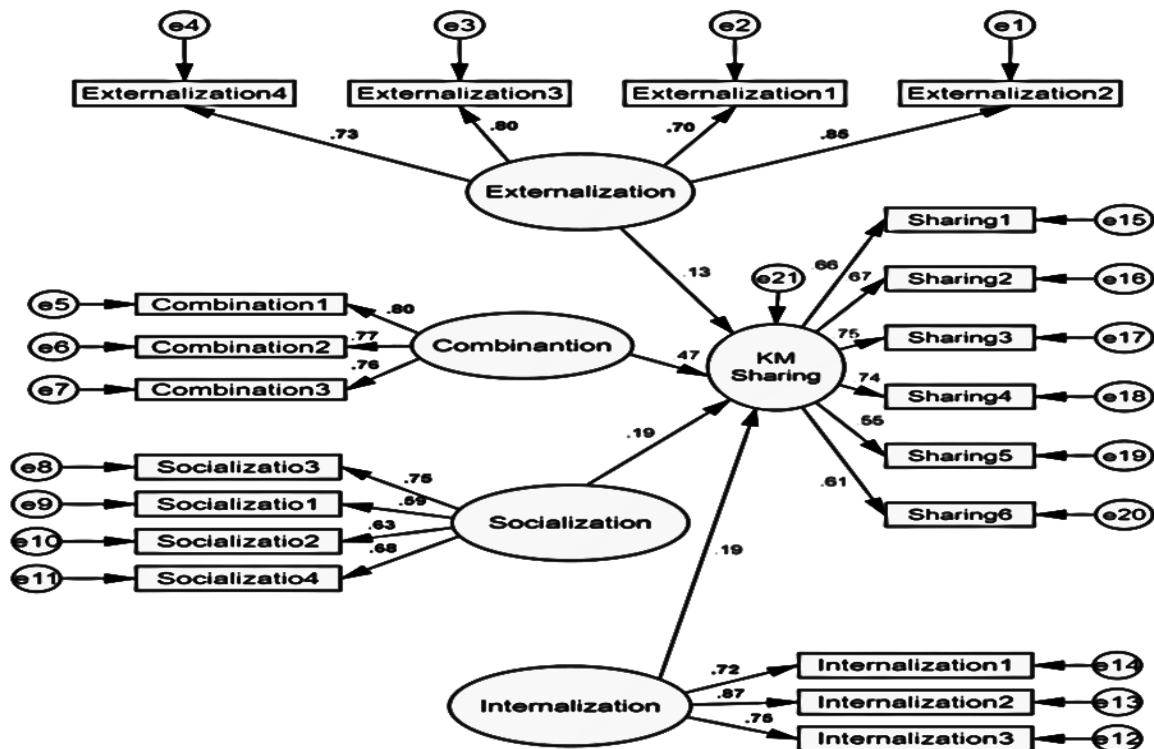
Figure 3*Measurement Model for Knowledge Conversion Practices*

Table 4
Model Validity Measures for Knowledge Conversion Practices

	CR	AVE	MS V	MaxR(H)	1	2	3	4
Externalization	0.857	0.601	0.546	0.864	0.775			
Combination	0.820	0.602	0.428	0.820	0.655** *	0.776		
Socialization	0.760	0.619	0.546	0.769	0.739** *	0.632** *	0.787	
Internalization	0.829	0.618	0.479	0.838	0.692** *	0.589** *	0.648** *	0.786

Figure 4
Knowledge Sharing and Knowledge Conversion Practices

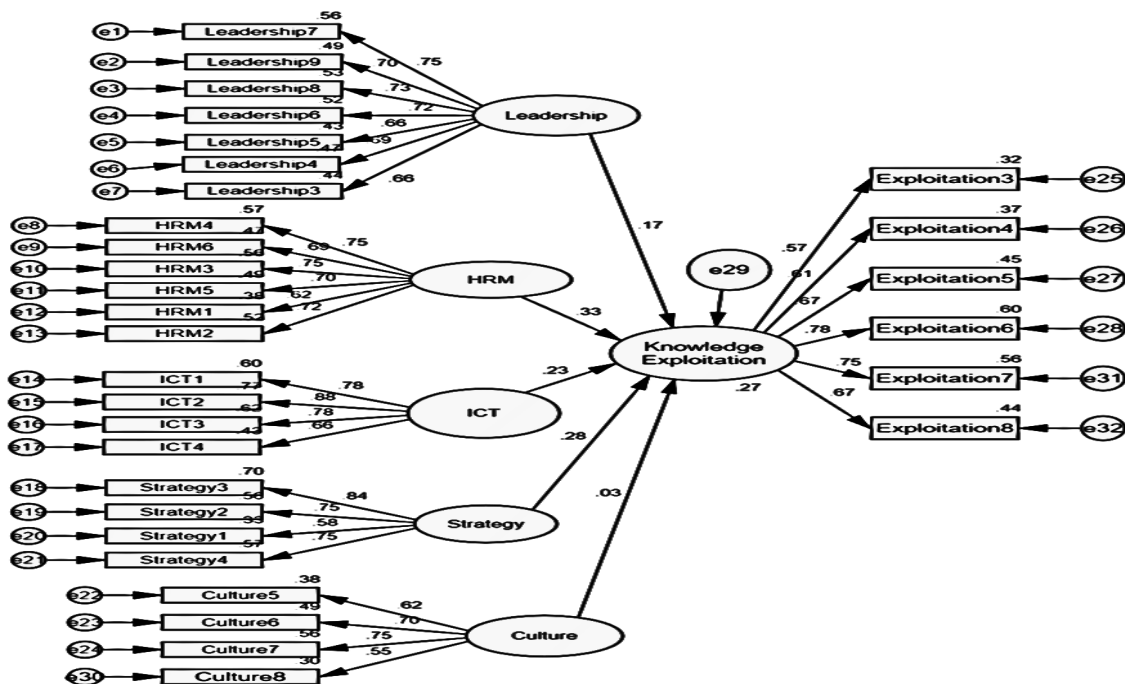


Contextual Factors and Knowledge Management

An exploratory factor analysis (EFA) with principal component factoring and varimax rotation was performed to identify the underlying dimension and factor structure of contextual factors related to knowledge management. Before the actual EFA, some preliminary investigations were conducted to check the factorability of the data. Thus, the knowledge managementO of sampling adequacy and Bartlett's test of Sphericity were analyzed, and the result confirmed the factorability of the data with knowledge managementO .929 and an approximate Chi-square value of 10116.141 at a (0.000) significance level.

The initial EFA produced a 6-factor component structure by splitting organizational culture dimensions into two component structures. However, based on past theoretical foundations, the factor structure produced a 5-factor component after eliminating factor loadings below .50 from organizational culture scale items. The final EFA result explained 63% of the variance in contextual factors scale items. After the EFA, a confirmatory factor analysis (CFA) was performed to test the validity of the structural model. Based on the result of the CFA, the model perfectly fits the data, as indicated by the CFA, GFI, SRMR, and RMSEA values.

Figure 5
Contextual Factors and Knowledge Management

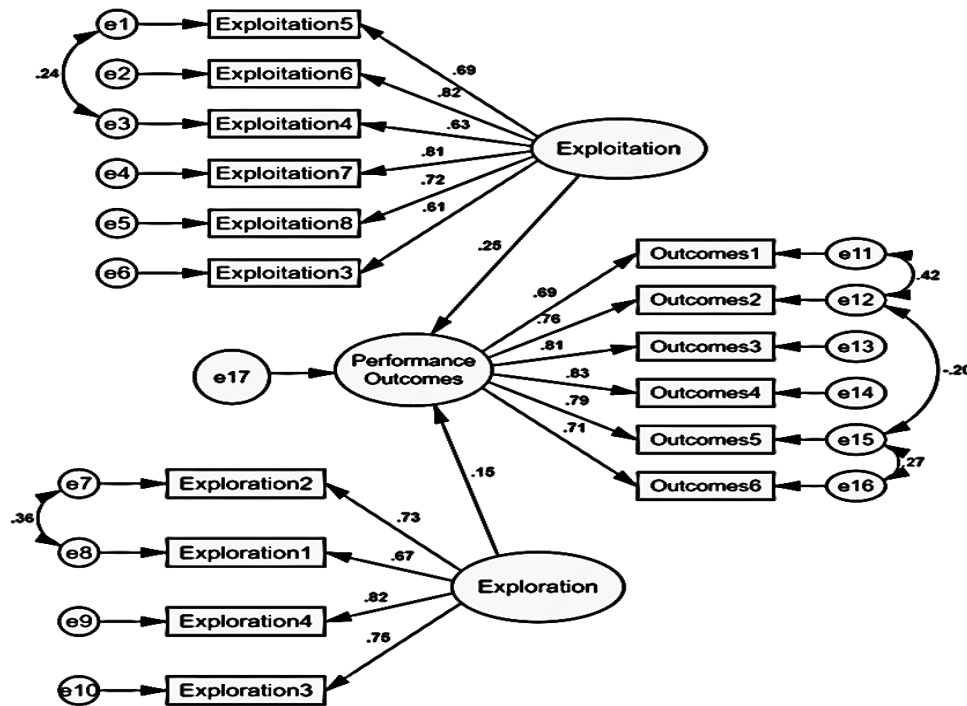


The study identified the major contextual factors influencing knowledge management practices in the selected public sectors. The study's results show that the major contextual factors affecting knowledge management are human resource management systems (HRM), information communication technology (ICT), knowledge management strategy, and leadership.

Knowledge Management and Performance

Past literature and empirical studies have revealed that knowledge management significantly influences individual-level and organizational-level performance outcomes. Based on this theoretical premise, this study investigated the effect of knowledge management on organizational performance.

Before testing the theoretical proposition, exploratory factor analysis was performed to validate the dimensionality of performance outcome scale items. A principal component analysis with varimax rotation was conducted, and the preliminary results proved the factorability of the construct. The EFA result produced a one-factor component structure which explained 67% of the variance in performance outcomes.

Figure 6*The Effect of knowledge management Practices on Performance*

The results in Figure 6 show the effect of knowledge management practices on organizational performance outcomes. As can be seen from the results of the structural model in Figure 6, both knowledge exploitation and knowledge exploration significantly and positively affect organizational performance outcomes. Based on the results, knowledge exploitation practices significantly and positively influence organizational performance compared to knowledge exploration. The result was further confirmed via model test measures.

Table 5*Model Fit Measures for knowledge management and Performance*

Measure	Estimate	Threshold	Interpretation
CMIN	276.807	--	--
DF	96	--	--
CMIN/DF	2.883	Between 1 and 3	Excellent
CFI	0.972	>0.95	Excellent
SRMR	0.041	<0.08	Excellent
RMSEA	0.050	<0.06	Excellent
PClose	0.493	>0.05	Excellent

Challenges of Knowledge Management

Qualitative data analysis was performed to identify the major challenges that hinder the effective implementation of knowledge management practices. Open-ended questions are provided in the questionnaire to elicit responses from the respondents. These responses are coded using qualitative analysis software, and a thematic analysis was done to identify the factors that affect the effective utilization of knowledge in Ethiopian public sector organizations.

The qualitative data analysis results identified personal, organizational, and environmental themes. In general, the following are found to be the major challenges of knowledge management in Ethiopian public sector organizations:

- Lack of trust in sharing and transferring knowledge
- Lack of ICT infrastructures (database management systems)
- Reward and motivation systems
- Knowledge management strategy
- Lack of knowledge-based culture that promotes teamwork and knowledge sharing/transfer
- Failure to measure the contribution of knowledge to organizational performance
- Lack of sufficient support from the top management (leadership)

Conclusion

Knowledge has been identified as the primary source of competitiveness in the current globalized economy and continually changing environment, characterized by technological innovations and increasing customer demand. Based on this premise, this study explored Ethiopian public sector organizations' current knowledge management practices. The research also investigated the effect of knowledge management on organizational performance and the major challenges that affect the effective use of knowledge in the public sector.

The major objective of this study was to investigate knowledge management practices in Ethiopian public sector organizations. With this major objective, the study also identified knowledge creation and conversion practices, the major contextual issues that affect the effective implementation of knowledge management, the relationship between knowledge management and organizational performance, and the major challenges that hinder the implementation of knowledge management in the public sector.

Concerning the current knowledge management practices, the study demonstrated that knowledge exploitation and exploration are implemented in the public sector to some extent. However, based on the study's findings, much attention is given to knowledge exploitation, which uses the current or available knowledge. Knowledge exploration, which is the acquisition, creation, or development of new knowledge to develop future opportunities and trajectories, is a neglected aspect of knowledge management practices in the public sector.

In general, from this study, it can be concluded that knowledge management practices are implemented in the public sector, although much emphasis is given to knowledge exploitation. Moreover, knowledge creation and conversion processes are practiced to some extent in the public sector, but there should be more focus on converting tacit to explicit knowledge. It was also confirmed that knowledge management practices positively and significantly affect organizational performance. In addition, several contextual factors influence the effective implementation and utilization of knowledge (strategy, HRM, ICT,

and leadership). Finally, the lack of sufficient ICT infrastructures, the lack of reward and motivation systems, and the lack of knowledge management strategy are the major factors that affect knowledge management in the public sector.

Limitation

There are several limitations of this study. The survey data collected is based on the respondents' perceptions and can be subjective. The scope of the study is limited as it does not cover other variables such as leadership styles, organizational commitment, etc. The study is also cross-sectional, and longitudinal data can shed more light on the issue studied. In addition, the scope is limited as it covers only the public sector and one country, i.e., Ethiopia.

Policy suggestions

Considering the research's results and conclusions, the study forwarded the following practical suggestions that all public sector organizations and other relevant stakeholders should address.

There is a need to design and implement Ethiopian public sector organizations' knowledge management strategy and align knowledge management strategy with organizational strategy. Moreover, public sectors should choose appropriate strategies, methods, and practices to manage different types of knowledge (explicit and tacit).

Although much emphasis is given to exploiting existing knowledge, there is a need to balance knowledge exploitation and exploration. Public sector organizations must focus on exploring new knowledge to compete in the current competitive environment and meet increasing citizen demand. Moreover, more emphasis should be placed on knowledge externalization and the combination of these two.

On-the-job training to convert tacit knowledge to explicit knowledge. Continuous capacity-building training should be given to employees to facilitate the conversion of tacit knowledge to explicit. In this regard, organizations should also promote a team-based approach to facilitate employee knowledge sharing. In addition, there must be continuous leadership support to manage the knowledge available in each organization effectively and to promote knowledge sharing.

A human resource management system that promotes knowledge sharing and transfer (reward and motivation systems) and retaining experienced and best performers should be given high priority by the public sector. On the other hand, ICT infrastructure (database management) should be given priority. It is essential to share explicit knowledge, which is tangible and can be accessed through the database. In addition, public sectors should conduct periodic assessments of the knowledge stock available in the organization to identify the gap and take corrective action if necessary.

It is better to design an independent department or team responsible for knowledge management in each organization. A separate department should be created, and the department should be equipped with a sufficient budget for research and development.

Suggestions for Future Research

Future research should include private organizations and should bring in longitudinal data. They should also attempt a comparative analysis involving several countries. This provides generalizability for the findings. Similarly, a mixed-method approach should be used instead of using qualitative and quantitative data separately. Experimental studies can

be conducted to study the impact of knowledge management practices on organizational performance.

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