

KNOWLEDGE MANAGEMENT AND EMPLOYEE PERFORMANCE IN MANUFACTURING COMPANIES IN RWANDA: EVIDENCE FROM CIMERWA PLC

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Abstract

This study aims to determine the relationship between knowledge management and worker performance in Rwandan manufacturing firms. In order to gather information for this study, the researcher used questionnaires. The sample size was 151 respondents, which was deemed to be representative of the entire population. The target populations were 244. To gather all the information required for this study, the researcher used primary and secondary data. After running the data through the Statistical Package for Social Sciences, the data was then analysed using descriptive and inferential statistics. Regression results indicated that the adjusted R^2 is 0.600 representing 60.0%, indicating that Knowledge management components contribute 60.0% to the task accomplishment, while 0.400 representing 40.0% remaining comes from other variables that are not included in the model one. From ANOVA Table 24, the F- test of 29.482 is statistically significant with $p < 0.05$ indicating that the variables used in the model are good predictors of task accomplishment. Therefore, H_01 which states that Knowledge management has no significant impact on task accomplishment at CIMERWA Plc; is not accepted at all levels of significance.

Key words: *Knowledge management, employee performance and manufacturing companies*

Introduction

Organizations in the twenty-first century are dealing with a wave of change that is unprecedented and a business environment that is turbulent, uncertain, and volatile. Contemporary organisations must change to keep up with this change or risk extinction. An evaluation of conventional managerial concepts, processes, and systems of delivery has been prompted by this changing environment, and new management philosophies centered on the practices and principles of learning organizations have been adopted. Due to the pressures on modern organizations to adapt and stay competitive, learning

organizations have emerged Probst. The onsets of globalization, fierce competition, an increase in the number of knowledge workers, and changing lifestyles have had an impact on organizations and management processes. Given this new environment, businesses are beginning to understand that striving for excellence rather than just survival will ensure continuity and sustainability (Peters). The management literature does a good job of explaining the advantages of learning organizations. Therefore, study look at the background of the study, problem statement, research question, research objectives, hypotheses, significance of the

study, justification of the study, scope of the study, operationalization of variables and operational definition of terms.

Wherever in world knowledge management, Kovai. *et al.* (2016) defined knowledge management as any system that enables employees in an organization to share, access, and update business knowledge and information. Individuals' knowledge is made up of flimsy facts and information that have been learned and expressed as ideas, skills, opinions, relationships, concepts, and viewpoints. Knowledge is only encoded in organizational processes, documents, products, services, facilities, and systems if employees have the intention to share what they know, as opposed to knowledge existing only in the individual's mind and only becoming encoded when it is articulated, captured, and shared. Over the past twenty-five years, many businesses in the United States of America have invested a lot of resources both time and money in order to give their employees a competitive edge. In this way, employee knowledge aided organizations in successfully utilizing employee skills for improved performance. Globalization, liberalization, industrial growth have altered the world in the twenty-first century, and knowledge management has emerged as a critical issue in the majority of nations for the long-term growth of all manufacturing firms (Mohajan, 2017). Since the last 20 years, knowledge has evolved in Bangladesh into one of the most significant and valuable assets of organizations. Manufacturing companies and organizations must manage knowledge in an effective and efficient manner (Faucher, 2016). The knowledge assets are dispersed throughout the organization and are inherent in databases,

knowledge bases, filing cabinets, and individual heads, according to Kim (2015).

Explicit and tacit knowledge are the two categories into which knowledge is divided in organizations (The Knowledge-Creating Company, 1991). Tacit knowledge, as first defined by philosopher, physician, and chemist Michael Polanyi (Polanyi, 1996), is knowledge that is difficult to formalize or articulate. It consists of practical skills, best practices, specialized knowledge, heuristics, intuitions, and other attributes (Polanyi, 2016). The content component of explicit knowledge (Mahmood et al.) is defined as data and information that has been encoded, stored, and disseminated. (2014). Simply put, it is moved and shared within an organization (Nonaka, The Knowledge-Creating Company, 1991). The tacit knowledge approach to knowledge management (KM) focuses on managing knowledge creators and carriers, moving people to transfer knowledge within a competitive agency, and thoughtfully examining the types of knowledge that individuals have within a competitive agency (Mohajan, 2017). The development of systems to disseminate articulated knowledge within the competitive agency is emphasized by the explicit knowledge approach to KM, which emphasizes processes for articulating knowledge held by employees at a competitive agency, methods for creating new knowledge, and methods for creating new knowledge (Smith, 2014). Both tacit and explicit knowledge should be taken into account for knowledge management in competition agencies because they are complementary, interrelated, and play parallel roles in knowledge creation and process, according to Gueldenberg and Helting (Gueldenberg and Helting, 2007).

In Europe, Germany has a reputation for having among the highest concentrations of manufacturing firms that use knowledge management to achieve their objectives. However, significant adjustments have recently been made in Germany to the management system's regulation as well as the business strategies of the country's large universal manufacturing firms. Large privately held manufacturing companies are finding it more and more challenging to turn a profit through traditional working methods, so they are turning to knowledge management as a foundation for doing so. The regulatory system has been altered in an effort to strengthen the role of knowledge management in the German financial system, in part as a result of demands from these manufacturing companies and in part as a result of initiatives taken by policymakers (Boudreau, 2014). . Early in the 1990s, knowledge management became a popular concept across a range of industries, including business administration, public administration, healthcare, information systems, and library and information sciences (Bennet and Bennet, 2018). Knowledge management and knowledge have become the most professional components in many fields of knowledge in the twenty-first century, including education, cognitive science, computer science, information and technology, economics, health, sociology, management science, information science, philosophy, psychology, knowledge engineering, artificial intelligence, and all branches of business (Martin, 2008); Adekanmbi. In the final two decades of the 20th century, the idea of knowledge management first appeared in the business world. Wiig (2019) and Podgórski (2016) comment on the purpose of knowledge management.

According to Wiig (Knowledge Management: An Emerging Discipline Rooted in a Long History, 1999), the purpose of knowledge management was to enhance business performance, competitiveness, and innovativeness in the age of globalization. Knowledge management refers to a methodical process of locating, choosing, compiling, and presenting information within an organization in order to enhance proficiency within that organization (Hameed, 2016). Executive decision-making, organizational adaptation, and renewal have all been viewed as being fundamentally dependent on knowledge management (Earl, 2015). In the areas of information studies and management science, recent advances in knowledge management are regarded as some of the most significant. It aids in improving organisational decision-making and effectively addresses problems.

People in Ghana and other African nations are motivated by a number of factors to work hard to achieve their manufacturing companies' goals. These factors also encourage people to be interested in their jobs and other responsibilities on a regular basis. Each worker or employee has a unique set of knowledge that influences whether or not they put in a lot of effort. There are various ways to empower and enable employees to realize their potential, which requires that they have a package of knowledge. One of these is the importance of knowledge management for successful businesses. The need for people to be knowledgeable in order to perform at their highest level has grown more important than ever due to fierce competition and economic uncertainty, according to Robin and Decenzo (2015). People are what can differentiate an organization in this difficult

environment, whether it be in the public or private sectors, so building and maintaining a stable workforce is a top priority for the human resource department. Both in our region and in Kenya, it is acknowledged that modern business requires greater efficiency and performance than in the past. According to a report issued by the Kenyan government in 2016 on a survey carried out by the Ministry of Industrialization and the Trade, public corporations and private companies are facing difficulties with lower output, lower levels of employee retention, and high turnover. Production has decreased by 30%, according to the survey. The lack of knowledge management was cited as a major contributor to these issues in the survey (GoK, 2016). High performing employees are needed in this challenging business environment because they are crucial to the expansion and survival of the company (Pratheepkanth, 2014). It is thought that high performing employees can improve their knowledge of how to deliver a quality product and bring customer satisfaction, profitability, positive work attitudes, personal health, extra-role behaviors, and performance. This shows that satisfied employees with high levels of knowledge management are a good recipe for business success. This is due to the fact that knowledge management of employees wants to stay with a company and contribute to the productivity and stability of the workforce.

The principle of knowledge management for employees' performance in the companies. Knowledge management is a form of pay benefits received by the employee from the experts and diversified skills as benefits to the employees (Sakovska, 2013). Human Resource managers should select well best knowledge of package based on what kind

of objectives they are intended to achieve (Pratheepkanth, 2015). This activity requires the organization to increase different skills so as to maximize its performance, to direct directing efforts and enthusiasm by specifying directions, to encourage particular types of skills needed and to be ready to adapt change requirements in manufacturing firms, (Torrington et. al., 2019).

In Rwanda, employee knowledge management is one of the key points emphasised by the employment laws, regulations and policies used by human resource managers to boost the performance in public and private institutions. In this perspective, organizations do their best to employ people who have the ability to serve a company, others with whom they work together including subordinates, peers, and superiors; people who work harder towards the accomplishment of goals assigned to them. If organizations can manage the employee's knowledge to become effective problem solvers and to meet or exceed customer expectations, then the organizational goals and objectives can be realized (Harvard press, 2014).

Knowledge management is essential since there is a direct relationship between knowledge management and productivity of manufacturing companies. Only through knowledge management, can managers help their employees generate the excellent performance that enables companies or organizations to boost profitability and survive even thrive during tough times. Increased knowledge management creates the conditions for a more effective workforce, as work management is an interactive process between employee performance and organization productivity (Harvard press, 2014).

In recent years Human Resource has become a central part of a considerable number of organizations where one of their main duties is to manage employees for better performance (Sharma, 2014). Bratton and Gold (2015), consider Human Resource Management as a strategic approach by which managers bridge employment relations and individual's capabilities. This is achieved by emphasizing competitive advantage and it can be done through best programs, practices and policies (Bratton & Gold, 2016).

This research has the purpose of knowing the impact of knowledge management on employee performance in manufacturing companies with references of CIMERWA PLC. In order to address this title a number of different areas will be looked at. These being some of the following; the background of knowledge management, theories on knowledge management, the relationship between knowledge management and employee performance.

According to Rwanda Development Board (RDB) the manufacturing sector in Rwanda is still small but steadily growing at an annual rate of 7%. Performance of manufacturing companies in Rwanda has improved extremely over the last few years. Moreover, only a few companies have access to the market. Even though Rwanda targets to increase industrial contribution to GDP to 26 % by 2020, in this line several policies and strategies such as National export strategy and the National industrial policy strategies have been developed to accelerate industrial and export growth.

In the manufacturing sector, where knowledge-based tasks account for the majority of jobs and the competition, knowledge management is essential. Manufacturing firms have been forced to

rationalize their products and processes and consider the contribution of knowledge management to performance improvement as a result of the dynamic nature of the global business environment (Kinyua, 2015). In the struggle for market share and improved performance, manufacturing companies have continued to draw on their knowledge assets to develop high-quality services that are effective and on a wider scale. Knowledge has unquestionably joined labor, land, and capital as essential resources for production Fatemeh and Jamal, 2017. The quest to manage this asset is growing in popularity among researchers and management because it is also becoming a valuable asset for the majority of organizations. Internal or personal knowledge cannot be easily articulated, captured, retained, disseminated, or reused, despite some forms of intellectual capital being transferable. So, if an employee decides to leave the company, the knowledge that has been ingrained in their minds may be lost. Poor knowledge transfer, knowledge application, knowledge management, and knowledge work systems are observed to hinder employee performance in manufacturing companies in Rwanda where there are losses and insufficient profitability, which ultimately led to the closure of manufacturing companies in Rwanda. Due to this, CIMERWA PLC was used in this study's analysis of the relationship between knowledge management and worker performance in Rwandan manufacturing firms.

Objectives of the Study

"The general objective of this study is to assess the impact of knowledge management and employee performance manufacturing companies in Rwanda".

“Specifically, this research achieved the following objectives to”:

1. To evaluate the impact of knowledge management (knowledge transfer, knowledge application, knowledge management systems and knowledge work systems) on task accomplishment at CIMERWA Plc;
2. To examine the impact of knowledge management (knowledge transfer, knowledge application, knowledge management systems and knowledge work systems) on creativity and innovation of employee at CIMERWA Plc;
3. To investigate the impact of knowledge management (knowledge transfer, knowledge application, knowledge management systems and knowledge work systems) on productivity for employee at CIMERWA Plc;
4. To evaluate the impact of knowledge management (knowledge transfer, knowledge application, knowledge management systems and knowledge work systems) on citizenship behaviour at CIMERWA Plc;
5. To determine the impact of knowledge management on employee performance at CIMERWA Plc.

Literature

Knowledge Management

Knowledge is made up of intangible consciousness and facts and information that have been learned and are expressed as ideas, judgments, talents, causes, relationships, perspectives, and concepts

(Kovai, 2016). Fatemeh and El-Denb (2017) claim as much. Knowledge exists in each person's mind, but only when it is spoken, recorded, and shared does it become ingrained in organizational procedures, documents, goods, and services, facilities, and systems (Fatemeh). The creation of knowledge is essential because it is the only source of long-term competitive advantage. Additionally, it is believed that one of the fundamental processes that determine an organization's capacity for learning and innovation is the creation and dissemination of knowledge, which is strategically significant (Salmador, 2017).

No organization can survive without human knowledge, despite the fact that it is elusive, dynamic, and hard to quantify. As a result, manufacturing companies need to implement initiatives that encourage their staff to share their knowledge as well as ways to record and store that knowledge for potential use in the future. The knowledge acquisition and creation processes are both part of the knowledge management cycle (Fatemeh). Knowledge creation entails creating new knowledge or updating existing knowledge with fresh information (Nonaka, 2014). Manufacturing companies and organizations must establish a culture that fosters knowledge creation. To do this, they must devise strategies for incentivizing employee sharing and raise awareness of the advantages that sharing can bring to an individual, a group, and the organization as a whole. Unlike knowledge creation, knowledge acquisition entails the search for, identification of, and assimilation of potentially valuable knowledge, frequently from outside the manufacturer (Huber, 2015).

Studies have identified two main categories of knowledge: explicit and tacit. Explicit

knowledge, as defined by the British philosopher Chen (2017) and Polanyi (2018), is primarily structured knowledge that is expressed through text, images, and symbols and can be taught orally and acquired through textbooks, reference materials, databases, etc. Tacit knowledge is only present in people's minds and is challenging to communicate through words, symbols, or visual media. Knowledge management is the process of acquiring, creating, sharing, retaining, and using organizational knowledge effectively (Chen).

Organizational knowledge is the result of the interaction between explicit and tacit knowledge. People have implicit knowledge, which is a product of their past experiences, skill, and expertise, among other things. and is difficult to capture and share. Tacit knowledge management is comparatively more challenging and calls for various techniques for its creation, articulation, capture, dissemination, and retention. The work of knowledge, experience, perspective, and values, which imply more innovative ideas and form the basis of core competitiveness, are just a few examples of the many knowledge cheats found in tacit knowledge (Serban, 2013). Explicit knowledge, on the other hand, is ingrained in the organization's procedures, practices, books, images, and symbols and is readily available to anyone looking for specific knowledge.

Knowledge Management Practices

The government liberalized the sector shortly after Rwanda's economy began to open up in the late 1990s, removing a variety of trade barriers and introducing new financial incentives for individuals and groups to invest in the manufacturing sector. As a result, labor productivity in various manufacturing industries increased as a result of higher worker satisfaction brought on by the privatization of product estates, strict

management, and use of modern techniques in private companies. According to prior studies, manufacturing companies that invest in the skill development of their workforce have more productive workers overall (Patterson and West, 2014). Furthermore, knowledge management practices improve workers' productivity in the manufacturing sector (Sharpe, 2014; Dishanka, 2016). Furthermore, Sivaram (2015) explained that it took a combination of improved knowledge, skills, attitudes, and human care support to transform an averagely productive worker into a top performer (Wickramaratne, 2019).

Knowledge Culture

According to Fatemeh and El-Denb (2017), management and economics have long disagreed about the effect of culture on performance in manufacturing firms. According to Milliken et al. (2013), cultural diversity is a double-edged sword that can either improve or degrade performance. The association of various points of view leads to increased interactions and spillovers, as well as more opportunities for knowledge recombination, which are all positive effects. Negative outcomes are mostly associated with issues that arise during conflict resolution and in communication. The culture of a manufacturing company can be viewed as a fairly rigid tacit infrastructure of ideas that influence not only our thinking but also our behavior and perception of our corporate environment (Chen, 2017). It establishes a set of rules for how employees of manufacturing companies should conduct themselves and how those companies should be organized. As a result of our examples, it is rigid. The literature on knowledge management emphasizes the significance of culture as a key factor in outcomes, such as those from Deshpande et al. Several strategies for overcoming

cultural barriers have been noted in the literature, including those advocated by Chen et al. (2017), Feldman et al. (1988), and Chen et al. (2013), to foster an organizational environment that fosters innovation. Amabile et al. list a number of such enabling conditions, such as the availability of tools and opportunities as well as the reduction of obstacles that might limit personal innovation et al (2016). Manufacturing companies must develop sharing policies and spread them throughout the organization to foster a culture of knowledge sharing. A culture of knowledge sharing encourages the creation of novel conceptions, concepts, or goods, which may give rise to innovative projects. In other words, cultural creativity is linked to people's capacity to function in a culture of knowledge sharing (Fatemeh). The organization's culture can be seen in many ways, including how people behave, what they expect from one another, and how they share information (McDermott, 2014). Culture is also reflected in the organization's mission and core values. Despite the fact that culture is an amalgam of crucial organizational components that act as a foundation and nurturer (Senge, 2016). Changes in corporate culture are necessary to support employees' intentions to share their information and expertise (Bure, 2013).

Knowledge Culture Distribution

Making it clear to employees that the company can only survive through the sharing of knowledge is both the responsibility and the responsibility of the manufacturing company. The organization can only achieve high levels of functionality and productivity with a sharing culture. The old paradigm was that knowledge is power, but today we argue that the real organizational power is in the sharing of

what employees know, and we change the organizational motto to the effective that sharing knowledge is power (Fatemeh and Jamal, 2017). As stated by Gurteen (2019), the goal of knowledge sharing is to assist an organization in achieving its overall business goals. Knowledge sharing can become a reality if people realize that doing so will enable them to perform their jobs more effectively (Gurteen, 2019). Organizational knowledge can be acquired, used, shared, and owned using a variety of techniques under effective knowledge management (KM). Actually, knowledge management (KM) can be viewed as a tactic that helps organizations use knowledge to plan, create, and manage the entire decision-making process (Kongpichayanond, 2019). An organization's capacity for knowledge management is its capacity to gather, distribute, manage, and deliver real-time authenticated information in order to enhance organizational response and enable quicker decision-making based on reliable information (Alavi, 2014). Knowledge does not last long and is not preserved. Knowledge quickly loses value if it is not applied and shared, Fatemeh. Employees can still be less productive than someone else with the same knowledge, despite the low level of knowledge sharing that exists today. Employees have more to gain than to lose by sharing knowledge. Employees benefit more from the synergistic process of knowledge sharing than they do from it. If one staff member shares a product idea or a way of doing things with another person then just the act of putting my idea into words or writing helped him/her shape and improve that idea and improve Tacit & Explicit knowledge. Therefore, if employees engage in conversation with the other person, they will gain from their knowledge, from their

distinctive visions, and they will advance their knowledge.

Employee Performance

Employee's performance, they must be aware of the steps necessary to successfully complete their job. Setting performance standards and goals helps motivate people and groups to focus their efforts on achieving the goals of the organization. According to Terrington (2015), involving employees in the planning process helps them comprehend the organization's goals, what needs to be done, why it needs to be done, and how well it should be done. As stated by Terrington (2016), performance expectations must be understood and, whenever possible, should include employee participation. Williams (2013) contends that having behavioral goals in addition to output goals is crucial because people can't always control their outcomes. A personal development plan was advised, which would support achieving goals once more.

Theoretical Review

"This section presents a critical review of theoretical arguments regarding the linkages between the research variables.

Resource-Based Theory

According with Coase's Nobel Award, in the last decade of the 20th century the resource-based theory of the firm (Prahalad & Hamel 2016; Krogh & Roos, 2015; Wernerfelt 2014) received attention as an alternative to Coase's transaction cost economics and the traditional product-based or competitive advantage view "Under the latter perspective, research on sources of sustained competitive advantage for firms has focused on describing a firm's strengths and weaknesses, isolating its opportunities and threats, and analyzing how these are matched to define strategies". "Under the resource-based

view of the firm, research emphasis has been given to the importance of alternative firm's resources, including intellectual capital, as a source of sustainable competitive advantage".

As the resource-based theory is the one most closely related to the knowledge-based view, we are reviewing the way core competencies or capabilities, the basis of the resourced-based theory, are defined in the relevant literature by authors who have in parallel contributed to the development of the knowledge-based theory.

Wernerfelt in his 1984 article titled "A Resource-based View of the Firm" recognizes resources and products as the two sides of the same coin, and notices that: "Most products require the services of several resources and most resources can be used in several products" and he proposed that "by specifying a resource profile for a firm, it is possible to find the optimal product-market activities. In this pioneering article, Wernerfelt develops simple economic tools for analysing the "relationship between profitability and resources, as well as ways to manage the firm's resource position over time.

Evans *et al* (2014) in reference to the above definition are suggesting (based on a well-documented case study) that "the competencies and capabilities represent two different but complementary dimensions of an emerging paradigm for corporate strategy. Both concepts emphasize behavioral aspects of strategy in contrast to the traditional structural model. But whereas core competences emphasize technological and production expertise at specific points along the value chain, capabilities are more broadly based, encompassing the entire value chain. In this respect, capabilities are visible to the customer in a way that core competencies

are rarely” (Evans, 2016) the differentiation they bring up is very well understood from a customer’s perspective, so significant in today’s business world.

Krogh & Roos (2015) in the introduction to their article on knowledge, competence and strategy, are additional “building on the resource-based perspective, in order to develop a better understanding of how competences build firms’ competitive advantage. The point of departure is knowledge, implying that the relevant unit of analysis in competence-based prospective is the individual. of resources in many ways;”. “We consider this perspective as the common link between the recourse- and the knowledge-based theories and we have totally adopted it in the course of our investigation”.

Knowledge-based Theory

It has been widely accepted that traditional human resources management can improve an organization’s competitiveness up to the point when it reaches the 'knowledge base' of a business: the skills and expertise of its employees (Grant, 2014)”. “On the other hand, information and communication technology is another parameter that has greatly increased traditional management capabilities”. According to Grant (2015) “What distinguishes the present economy from a knowledge perspective is the sheer accumulation of knowledge by society, the rapid pace of innovation and, most important, the advent of digital technologies that have had far-reaching implications for the sources of value in the modern economy”. “Thus, one can easily assume that modern management of human resources could provide a competitive advantage by adopting a knowledge management perspective assisted by information and communication technologies”.

At the turn of the 20th century Grant, in a series of articles, and Sveiby (2014) presented in a very clear way the fundamentals of a knowledge-based theory of the firm. Let us quote Grant summarizing his recent work (Grant 1995)”: “Based on certain premises regarding the nature of knowledge and its role within the firm, the knowledge-based theory explains the rationale for the firm, the delineation of its boundaries, the nature of organizational capabilities, the distribution of decision-making authority and the determinants of strategic alliances” (Grant, 2017).

According to Grant (2017) the knowledge-based view is founded on a set of basic assumptions: Knowledge is a vital source for value to be added to business products and services and a key to gaining strategic competitive advantage. Explicit and tacit knowledge vary on their transferability, which also depends upon the capacity of the recipient to accumulate knowledge. Tacit knowledge rests inside individuals who have a certain learning capacity”. “The depth of knowledge required for knowledge creation sometimes needs to be sacrificed to the width of knowledge that production applications require. Most knowledge, and especially explicit knowledge, when developed for a certain application ought to be made available to additional applications, for reasons of economy of scale.

According to Sveiby (2014) while competitive-based and product-based strategy formulation generally makes markets and customers the starting point for the study, the resource-based approach tends to place more emphasis on the organization’s capabilities or core competences. “Thus, the knowledge-based strategy formulation should start with the primary intangible resource: the

competence of people". Sveiby (2014) believes that people can use their competence to create value in two directions: by transferring and converting knowledge externally or internally to the organization they belong to. When the managers of an industrial company direct the efforts of their employees internally, they create tangible goods and intangible structures such as better processes and new designs for products. When they direct their attention outwards, in addition to delivery of goods and money they also create intangible structures, such as customer relationships, brand awareness, reputation and new experiences for the customers.

Empirical Review

This section presents a review of extant empirical literature on the basis of the interaction between the adopted research variables.

The Impact of Knowledge Transfer on Employee Performance

Knowledge conversion is a social process in which people with various levels of knowledge interact and produce new knowledge, increasing both the quality and quantity of tacit and explicit knowledge (Sa'nchez, 2018). To improve and enhance corporate performance, businesses implement knowledge management (Gottschalk, 2017). A process model of knowledge creation assumes that people and organizations build knowledge by converting tacit knowledge into explicit knowledge and vice versa. The creation of explicit knowledge can be shared throughout the entire organization and transformed into tacit knowledge for individuals through knowledge conversion (Tseng, 2014). For effective use within the company, knowledge that is gathered from

various sources must be transformed into organizational knowledge (Lee, 2014). Elizabeth et al. According to, (2014), informal training is the primary medium for knowledge transfer. A company can make better decisions and be in a better position to compete in the modern business environment by properly integrating business intelligence and knowledge management (KM).

This helps manage explicit information and transforms it into knowledge (Rao, 2015). Additionally, this integration makes it easier for employees throughout the organization to capture, code, retrieve, and share knowledge in order to maintain a competitive market and gain a strategic advantage. Organizational structure, knowledge acquisition, knowledge application, and knowledge protection all have an impact on organizational performance, according to Fattahiyan, Hoveida, Siadat, and Talebi (2013). However, the study by Godfrey (2015) found that neither organizational culture nor knowledge conversion significantly affect performance. Because not all knowledge resources are found to improve performance, these findings are incoherent. Tseng (2015) found that knowledge socialization has no impact on corporate performance using the measures of knowledge externalization, knowledge combination, internalization, and socialization. Knowledge conversion does, however, have a positive impact on corporate performance due to its composite nature.

The Impact of Knowledge Application on Employee Performance

Knowledge management can be identified as the management of knowledge transfer between people within an organization and

is completed through the process of identifying, using, creating, sharing and storing knowledge (Heisig, 2014). According to Shaabani, & Ghasemi (2013), KM process capabilities refer to higher-order structures representing knowledge acquisition, knowledge transformation, knowledge application, and knowledge storage. Empirical results of this study showed that KMPC has a positive impact on the core competencies of Iran's automotive industry (Momeni *et. al*, 2014). The study focused on integration and marketing competencies as the most important aspects of core competencies. Discussion of Mohrman *et al.* (2013) suggest that organizational performance improves when organizations create and use knowledge. Knowledge application is the process of applying knowledge directly to task completion or problem solving. According to Ajmal & Koskinen (2018), knowledge can be owned and applied by individuals or entire teams. Businesses do not profit from the existence of knowledge, but from its correct application (Gasik, 2014).

Organizational routines, direct guidelines and instructions, and self-organized teams are the main mechanisms to ensure knowledge application (Grant, 2016; Gasik, 2015). The application of knowledge can take many forms, including: Elaborate, Infuse, or Thoroughly (King, & Haney, 2008). Yosuff & Daudi (2014) used a 7-point Likert scale, correlation analysis, and regression analysis to conclude that the application of knowledge has a positive impact on organizational performance. However, given the low response rate of 38%, the conclusions of the survey cannot be generalized. Using a five-point Likert scale, McKeen & Singh (2016) found a statistically significant positive association between perceived high acceptance of KM

practices and perceived high organizational performance. Showing that there is KM consists of different but interdependent processes: knowledge generation, knowledge storage and retrieval, knowledge transmission, and knowledge application (Alavi & Leidner, 2015). Glisby and Holden (2015) observed that companies breakthrough in applying the KM concept to their supply chains.

The Impact of Knowledge Management Systems on Employee Performance

Employees' knowledge, skill, judgment, and experience are exemplified by their human capital (Souleh, 2014). The development of current employees' knowledge and skills as well as the recruitment of individuals with high knowledge and skill levels from the external labor market are two ways that organizations can boost their human capital. Individuals are essential for an organization to produce knowledge (Choudhury and Mishra, 2014). Individuals build up their human capital through learning, and they produce knowledge that could serve as a foundation for learning and knowledge accumulation at the organizational level. The basis for comprehending the function of human capital as a potential source of a firm's core competencies is provided by knowledge stocks. Stevens (2014) demonstrated, through the use of an exploratory research design, that businesses must create knowledge transfer strategies that are compatible with the dynamics of a multigenerational workforce while also taking into account the diversity of generations present in the workplace. This study looked at how knowledge is passed down across generations and the differences between workforce generations. Due to the nature of the

research design chosen, these results, however, could not be generalized. Lin and other people. Unlike documentation, senior engineers are the main internal source of useful information in product development, particularly when making crucial design decisions, according to (Hills, 2013).

The ability to make decisions with a holistic understanding was only possessed by engineers with sufficient experience in their field as well as collaborative experience with other disciplines. According to research from the International Business Machines Corporation and the American Society of Training and Development, 60 and 50 percent of respondents used mentoring and documentation, respectively, for storing and transmitting knowledge (Lesser, E.2017) . This study found that mentoring, particularly for tacit and experiential knowledge, is the most efficient method of knowledge transfer. Furthermore, it can be used to close the generational gap because knowledge transfer cannot take place in situations where a mentoring relationship cannot be established. In addition to these methods, knowledge transfer can also take place through classroom instruction, the support of learning communities, and the use of multimedia tools to preserve important lessons learned by ageing employees.

The Impact of Knowledge Work Systems on Employee Performance

In the highly competitive, uncertain, and quickly changing business environment of today, knowledge management (KM) has emerged as a crucial component. The process of accessing experience, knowledge, and expertise, or KM, results in new skills, enhances work performance, fosters innovation, and adds value for customers. It fosters an environment where

knowledgeable people can use, share, and add to existing knowledge Stevens (2014). From a knowledge-based perspective, the most basic forms of production are immaterial; it is centred on human capital, i.e. as well as their motivation for work, work-related skills, experiences, and competences, as well as how they apply these skills to the organization's advantage. Since human knowledge, abilities, and intelligence are tacit and individually centered, they are difficult to record and process for the organization's advantage. Management may occasionally find this difficult. The library has become a key player in knowledge management, which is a core area of social science based on information and knowledge resources. Generally speaking, libraries are known as knowledge-based organizations that concentrate primarily on gathering, processing, and disseminating knowledge and information services for various stakeholders. This means that knowledge is considered their primary resource, and thus, improving KM practice and enabling knowledge are a challenge in libraries (Stevens, 2014).

According to research, KM strategies and methods have an impact on job satisfaction, which in turn improves worker productivity. The results of numerous earlier studies generally explained that job satisfaction is the employee's perception of his or her job, both positively and negatively, which encourages organizational commitment and productive work (Stevens, 2014). Numerous important factors, including job design, skill variety, and role ambiguity, have been identified as important antecedents of job satisfaction. The observed influencing factors, however, do not include KM-related issues. Although in the area of organizational behavior, job

satisfaction is the subject that has been studied the most. It hasn't frequently been analyzed from a knowledge-based standpoint. This paper explores how the KM process and approaches function to affect how satisfied each employee is with their work in order to fill this gap in the literature. This white paper examines how KM processes and approaches affect individual employee job satisfaction (Stevens, 2014).

Gap Analysis

Many empirical studies have been conducted on KM. However, as Syed-Ikhsan and Rowland (2014) point out, most of these empirical studies have not been conducted in developing countries. The empirical studies reviewed show consistent results showing that KM influences the performance of the tissues studied (Marquardt, 2015; Wu, 2014; Yussoff, 2015). Carucci et al. (2014) found that knowledge assets are as important, if not more important, to competitive advantage and survival than physical and financial assets. A positive relationship between knowledge and performance is emphasized based on a resource-based approach. Certain categories of valuable, rare, unique and irreplaceable knowledge are expected to lead to achievement.

However, Vera & Crossan (2013) argue that conclusions from previous empirical studies do not suggest that more knowledge leads to better performance, but that it can have a positive impact on organizational performance. Therefore, creating relevant knowledge is a must for any organization that wants to be more competitive. Despite the hypothetical relevance of Chakravarthy et al., (2013), it is still possible for KM to adversely affect organizational performance. This can be understood by considering important KM

processes such as knowledge accumulation, knowledge protection, and knowledge utilization. Each process is important, but tensions between different processes can undermine the desired competitive advantage. For example, trying to actively use knowledge can inhibit the accumulation of knowledge. This is because the latter usually does not give monetary gain in the short term, whereas the former often does. (Yussoff & Daudi, 2014) use correlation and regression analysis to conclude that applying knowledge has a positive impact on performance. However, the low response rate of 38% is below his 50% threshold recommended by (Mugenda, 2013), so the results of this study cannot be generalized. Bourini, et al., (2013) concluded that KM activity is positively correlated with strategy. However, this study is based on an exploratory research design and does not support the formulation and validation of research hypotheses. Maseki (2015) observed that KM affects performance. Nevertheless, this conclusion is based on descriptive statistics, which limits the generalizability of our results. Ongore and Kusa (2013) used profitability measures such as return on equity, return on assets, and net interest margin as key performance indicators.

Although the study concluded that company's specific factors significantly affect performance, it ignored non-financial indicators which offer a more precise representation of performance on the basis of current and future operating conditions (Zhang & Longyi, 2016)". "It has also been noted that previous studies have not considered specific aspects of KM (Firestone & McElroy, 2013; Carlucci, 2014; Massa & Testa, 2014), and thus there is limited understanding of the extent to which KM affect performance, particularly

because this concept is complex in nature". "Although manufacturing companies are knowledge-intensive organizations with a significant contribution to economic growth of countries through intermediation function, their performance suffer as a result of hoarding knowledge in scattered silos, fragmented by division, department, region and host of other organizational factors such as culture, processes, human capital repository, management style among others. Despite the extensive scholarly work on KM and performance, the understanding of the influence of KM on performance within manufacturing companies and other organizations is still developing". "This presents a strong case for the need for further research and collation of knowledge in order to enhance the understanding, formulate universally enduring policy guidelines for appropriate KM practices, and enhance the benefits deriving from utilization of knowledge assets in the manufacturing company in Rwanda".

Methodology

This study adopted the survey design and primary data was collected through the use of questionnaire where the management and staff provided answers to the questionnaire and the researcher used multiple regression statistics in testing the knowledge management, employee performance and manufacturing companies in Rwanda. Purposive sampling technique was adopted to allow the researcher to use 244 respondents from CIMERWA Ltd and

Table 1

Model Summary on Task Accomplishment

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.788 ^a	.621	.600	5.32930

a. Predictors: (Constant), Task Accomplishment

among which 151 targeted respondents with 151 of copies of questionnaires were distributed to be answered and analysed with Statistical Packages of Social Sciences version 20 (SPSS). The data helped to get statistical evidence that supported the test of the hypothesis of the study which stipulated.

Findings, Discussion and Interpretation

The findings in table 15 indicated that for the first statement that stated that "There is a process of information identification and there are open discussions" "the respondents agreed with a mean of 4.55 and standard deviation of .94 with the statement and this indicated that the respondents agreed with the statement as indicated by the mean and heterogeneity of answers as indicated by the standard deviation where the respondents had same opinions of the statement".

The second statement evaluated was "There is a process of information evaluation and similar mistakes are avoided." "Where the respondents agreed with a mean of 4.65 and standard deviation of .93". "This indicated that the respondents agreed with the statement as indicated by the strong mean and heterogeneity of answers as indicated by the standard deviation where the respondents had different opinions of the statement".

On average the respondents agreed with a mean of 4.39 and standard deviation of 1.10with knowledge management.

Table 1 shows that the results indicated that the adjusted R² is 0.600 representing 60.0%, indicating that Knowledge management components contribute 60.0% to the task accomplishment, while 0.400 representing 40.0% remaining comes from other variables that are not included in the model one.

Table 2
ANOVA^a Task Accomplishment

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	837.324	4	837.324	29.482	.000 ^b
	Residual	511.226	147	28.401		
	Total	1348.550	151			

a. Dependent Variable: Task accomplishment

b. Predictors: (Constant), Knowledge Transfer, Knowledge Application, Knowledge Management Systems, Knowledge Work Systems.

From ANOVA Table 2, the F- test of 29.482 is statistically significant with $p < 0.05$ indicating that the variables used in the model are good predictors of task accomplishment. Therefore, H₀₁ which states that Knowledge management has no significant impact on task accomplishment at CIMERWA Plc; is not accepted at all levels of significance.

Table 3
Coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.206	.345		.598	.550
Knowledge Transfer	.355	.029	.583	12.246	.000
Knowledge Application	.068	.030	.083	2.259	.025
Knowledge Management Systems	.021	.035	.024	.607	.044
Knowledge Work Systems	.151	.023	.226	6.502	.000

a. Dependent Variable: task accomplishment

The results from coefficient table 3, Knowledge Transfer has positive and significant effect on task accomplishment at CIMERWA Plc ($\beta_1 = 0.583$; $t = -12.246$, sig. = 0.000). This indicates that 1-unit change in Knowledge Transfer will lead to 0.583-unit change in task accomplishment. There is a positive and significant effect of Knowledge Application on task accomplishment at CIMERWA Plc ($\beta_2 = 0.083$; $t = 2.259$, sig. = 0.025). This indicates that 1-unit change in Knowledge Application will lead to 0.083-unit change in task accomplishment. Knowledge Management Systems has a positive and significant effect on task accomplishment ($\beta_3 = 0.024$; $t = 0.607$, sig. = 0.044). This indicates that 1-unit change in Knowledge Management Systems will lead to 0.024-unit change in task accomplishment. Knowledge Work Systems has a positive and significant effect on task accomplishment ($\beta_4 = 0.226$; $t = 6.502$, sig. = 0.000). This indicates that 1-unit change in Knowledge Work Systems will lead to 0.226-unit change in task accomplishment.

Discussion: The findings of this research are in line with the study of (Asamoah, 2015) which shows that there exists a positive relationship between knowledge management and task accomplishment, since the more the employees are aware of ways to accomplish tasks accomplishment.

Discussion of findings

This study explores the effect of knowledge management and employee performance in manufacturing companies using knowledge management and employee performance data series from 2018 to 2021. Descriptive statistics were tabulated to give a brief summary of the variables under consideration. The data was then subjected to various inferential analyses to establish relationships between the variables such as Analysis of Variance (ANOVA) and Correlation analysis. On the basis of our findings, empirical results reveal a positive and statistically significant relationship between knowledge management and employee performance. Correlation analysis resulted in a correlation coefficient of 0.806 at the 0.01 (2-tailed) significance level. Thus, it can be stated that the effect of knowledge management and employee performance in manufacturing companies is a strong positive one. Correlation analyses

between knowledge management and employee performance also revealed a direct proportional relationship.

This result is also in agreement with the findings in earlier studies primarily on the direct positive relationship between knowledge management and employee performance in manufacturing companies. In this regard, in a survey by Ilhan (2017) of over 50 empirical investigations on the relationship between knowledge management and employee performance, 40 of such studies have shown a positive relationship with only 2 reporting negative and the rest demonstrating no effect. These empirical evidence point to the fact that most knowledge management is associated with employee performance. Furthermore, Lumbila (2015) tested a hypothesis whether knowledge management has an overall effect on employee performance in manufacturing companies and the results revealed a statistically significant difference that a 10

percent increase in knowledge management can bring about 0.34 percent employee performance in manufacturing companies.

Conclusion and Recommendation

The main objective of this study, in the case of CIMERWA Plc, was to determine the impact of knowledge management and employee performance in a manufacturing company in Rwanda. The purpose of this study was to determine the transfer of knowledge management related to employee performance. The study also sought to determine whether the combined impact of organizational learning, knowledge management, and employee outcomes on organizational performance was greater than the individual impact of each predictor variable. A stepwise regression analysis was performed to assess the impact of knowledge transfer on the punctuality of employees of CIMERWA Plc. Investigate the impact of knowledge application on the creativity and innovation of CIMERWA Plc's employees. It examines the impact of the knowledge management system on CIMERWA Plc's employee productivity and evaluates the impact of the knowledge work system on CIMERWA Plc's employee consistency. Finally, the impact of knowledge management and employee performance at manufacturing firms was greater than the individual effects of the predictor variables. These results support his RBV premise that the combined effect of firm-specific resources leads to superior performance. The results also suggest that manufacturing companies can gain competitive advantage by aligning knowledge management and employee performance. The results of this study showed that learning organizations have a strong and significant impact on non-financial performance. The impact of

knowledge management and employee performance on non-financial performance was significantly reduced in the presence of the learning organization. This suggested that learning organization influenced the predictors and prompted further testing to determine this relationship. The choice of mediation was influenced by the fact that the presence of learning organization in the regression model has a significant impact on both employee performance and knowledge management.

Some weaknesses in knowledge management of CIMERWA were found and the following recommendations are given;

- i. Many respondents disagreed that the company's leadership has pioneered, driven knowledge management adoption and use as indicated by a tend to weak mean of 2.05. Therefore, CIMERWA leadership is recommended to adopt knowledge management driven philosophy and gain competitive advantage by aligning knowledge management and employee performance.
- ii. Many respondents disagreed that there is collaboration in development and use of new information and ideas as indicated by a tend to weak mean of 2.30. Therefore, CIMERWA is recommended to involve all members of the organization in the process of new idea development.

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