

Production Management: Analyzing the alignment of knowledge management with production management

Idrees Sadeq Kanabi¹, Diyar Abdulmajeed Jamil², Rozhgar Khorsheed Mahmood³, Zaid Saad Ismail⁴, Swran Jawamir Jwmaa⁵, Saif Qudama Younus⁶, Baban Jabbar Othman⁷, Muhammed Khazal Rashad⁸

^{1,5,6,7,8}Department of Business Administration, College of Administration and Financial Sciences, Knowledge University, Kirkuk Road, 44001 Erbil, Kurdistan Region, Iraq

^{2,3,4}Department of Accounting, College of Administration and Financial Sciences, Knowledge University, Kirkuk Road, 44001 Erbil, Kurdistan Region, Iraq

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Abstract

The development of new information in the field of project management has had a significant effect on the manufacturing industry. As a result, it is critical that service development procedures be optimized in every project. The rise in cement manufacturing production was supposed to be accomplished through the utilization of knowledge management principles and knowledge management as a mediator, which was the purpose of this research. The research was carried out across a number of different cement-producing sites in the Kurdistan area of Iraq. The researchers looked at four different aspects of knowledge management in order to determine how much production could be increased by using knowledge management. These aspects were knowledge creation, knowledge storage management, knowledge sharing, and knowledge application, with knowledge management acting as a mediator. The researchers utilized a quantitative research methodology in the form of a survey in order to carry out the current analysis that is being presented. The questionnaire was handed out in a randomized fashion to around one hundred and forty administrative staff members working for a variety of cement production enterprises in the Kurdistan area. However, the researchers did manage to gather a total of 128 completed surveys. The study employed hierarchical multiple regression analysis as well as the Sobel test in order to evaluate the research hypotheses that had been created. According to the findings, each component of knowledge management—knowledge creation, knowledge storage development, knowledge sharing, and knowledge application—had a distinct and significant positive relationship with increased production at carpet manufacturers in the Kurdistan region of Iraq. This was the case regardless of which component of knowledge management was examined. In addition, the findings indicated that all knowledge management concepts with a mediator (a project management development program) had an indirect positive and significant relationship with increased production at cement manufacturing facilities in the Kurdistan region of Iraq. The mediator in this case was the project management development program.

Keywords— Development, Production Management, Knowledge management

I. INTRODUCTION

Companies that are able to complete projects within the allotted time and without exceeding the allotted budget are becoming increasingly sought after or appreciated as potential suppliers now that business conditions have become more competitive. The establishment of reliable infrastructure serves as the basis for the success of this project. In addition, the capacity to move quickly as well as nimbleness are quite important. management as a number of different costs (Abdalla Hamza et al., 2021) Also, when markets grow, several aspects, including complexity,

flexibility, scalability, strategy, and trade-specific requirements, have to be taken into consideration for improved strategic value management (Othman et al., 2022). In addition, there should be studies conducted on concerns, challenges, and issues that are currently present and need to be solved (Sadq et al., 2021). If the study is going to be significant, then these steps are obligatory in order to identify the research topic that needs to be researched (Mahmood et al., 2022), the goals that need to be accomplished, and the motivation to carry out the investigation. conventional projects and activities by

compiling important academic papers, news (Faeq, 2022), blogs, and industry publications, along with internet sites of general interest, professional publications, books, and government reports that offer information regarding project management (Ismeal et al., 2021). As a result, this thesis takes a critical look at the theories of finance management and project management and presents questions about how such ideas could apply to the context of provincial development in Iraq (Faeq et al., 2020). As a consequence of this, the strategy for acquiring the items needs to be simplified in order to achieve the objective of the project (Faeq et al., 2021). Frequently instructs potential contractors on the specific elements that must be included in a request for proposal to be successful (Hamad et al., 2021). This makes it possible for bids to be more competitive with regard to other companies and to incorporate all relevant specifications into the RFP (Anwar, 2016). When we look at the opportunity based on these needs, we ask each firm to build a plan for how they can satisfy those requirements, and then we compare those proposals to determine whether or not both companies can achieve those criteria. Despite the fact that the project is working with the Iraqi government (Gardi et al., 2021), the economy of the Kurdistan region is struggling owing to the huge number of new businesses and youthful populations that do not have many years of experience working for the government (Faeq et al., 2022). This second source provides the rationale behind OPM's recommendation to use a project management method known as "programs" to conduct, and this advice has been shown to be sound (Hameed & Anwar, 2018). An excellent source has validated this suggestion to implement project management strategies by providing strategies for project implementation (Qader et al., 2021). Managing benefits is something that is becoming more and more essential in the modern corporate world (Faeq et al., 2022), but for the majority of firms, the question of who is to be held accountable for such benefits still remains unclear. According to Anwar and Shukur (2015), the fact that long-term benefits have not kept pace with expectations and may even have diminished since almost a decade ago is excellent news. The researchers found that this situation occurred (Anwar, 2017). Firms need to engage in a more demanding endeavor of transformative change and incorporate stakeholders that are farther along in the process in order to reach the goals that are not currently being met (Hamza et al., 2021). Only within the confines of a program management framework is it possible to make a transformative change. Any program for a company should begin with a statement of goals and objectives before moving further (Faeq et al., 2022). These forecasts provide a measurement of the advantages that the company will get as a result of the vision. A "blueprint" of the future state of

things may be created by combining the processes, structures, and technologies that are already in place with the value proposition that is being targeted (Anwar & Shukur, 2015). The leadership of the program develops business and personal enterprises as well as public infrastructure projects and services in order to establish and empower the new state (Hamad et al., 2021). This new or updated software delivers the capabilities in combination with an extension of existing ones, supporting them in a way that makes their usage easier and in ways that are applicable to the activities that are now being carried out (Faeq, 2022). The implementation of a transformation program will result in observable advantages and make it easier to realize the organization's overarching goal (Abdullah et al., 2017). To achieve excellence in any kind of program, an organization must find a partner with the appropriate power (Hamza et al., 2021), where the programs believe in it, and with a high level of responsibility. Program managers are uniquely positioned to better understand the critical interconnections and programs for OPM improvement. This is not to mention aligning them with project goals and the needs of stakeholders. When used in this context, the phrase "new organizational skills" indicates that capability is more than just something that exists; rather (Faeq & Ismael, 2022), it is something that can be explained in addition to being realized, and that can then be quantified as projected outcomes and continuing gains. In order to be profitable and to reach or surpass the sponsor investment objectives (Anwar & Shukur, 2015), the objectives and goals of a program should take into consideration both the tangible and intangible advantages of the program (Aziz et al., 2021). The traditional approach suggests that a program manager should normally play a major role in the programs that they are responsible for administering (Faeq, 2022). The problem with this approach is that it places all of the responsibility and authority in the hands of a single individual or group rather than dividing it up evenly across all of the many divisions and regions of the organization. Organizations that are program-managed and project-managed should provide program managers and project managers with the ability and flexibility to innovate and participate fully in change that is commensurate with the responsibilities they supervise (Anwar, 2017). Even if there has been a significant shift toward the usage of matrices for organizational management, matrices may still be found in many other kinds of businesses. There is a correlation between the presence of the program manager and a reduction in the efficacy of the team in modifying the corporate structure (Qader et al., 2021). In contrast to the role of the program manager, a program normally follows a management pattern that is more traditional (Faeq & Ismael, 2022). This pattern is responsible for planning, managing,

and regulating the full lifecycle of the program. In this approach, the tasks of project management include developing the projects and encouraging the introduction of additional project functions that assist programs in meeting the requirements of the company (Sabir et al., 2021). When it comes to providing the capabilities as well as obtaining the anticipated benefits of the improvement programs, the integrator is of utmost importance since he or she contributes to the development and maturation of the new system's work processes (Anwar, 2016). This planning takes place, more or less, before the pre-transition period, after the transition, and during the transition itself. These duties will comprise the following: (Faeq & Ismael, 2022). In the scenario described above, the program manager does not need to have extensive knowledge of project management. Instead, the controller is selected from outside of the business unit that will possess the capabilities and profit from them for a period of time (Sorguli et al., 2021), but for a period of time that is significant enough to have an effect (Anwar & Surarchith, 2015). In addition to this, they are useful sources for criteria for the formulation and administration of change management as well as for involving stakeholders and the communities in which they are located. first and foremost, consisting of the program sponsor, program manager, and integrator (Ismael, 2022). In order to guarantee that the advice and direction provided by the program are accurate, the leadership of the program should include both subject-matter experts and leaders. Making recommendations regarding how OPM programs might be improved based on the usage of OPM assessment tools is a typical function that will be allocated to an OPM consultant in this context (Faeq & Ismael, 2022). It is very necessary for both the development and implementation of the program capabilities as well as the roll-out of the program advantages and the delivery of the program's value. (Anwer et al., 2022) As a direct consequence of this, the sponsor receives reports from both the manager of the program and the implementation team simultaneously. In fact, despite appearances, the program board is highly effective and gets the job done (Anwar & Ghafoor, 2017). It helps to structure the plan, makes certain that a prospective state capacity does in fact exist, and bolsters the concept of the program's potential benefits. Furthermore, it serves as a representative of the market or business environment (Ismael, 2022). The availability of resources will be limited, and the most recent capabilities, which are subject to varying degrees of OPM-process acceptance challenges, will be challenged. This committee provides a means for the continuation of programs as well as the potential for adaptation and the ability to be flexible. In addition to this, it enables students to concentrate on their

achievements and permits adaptability (Faeq & Ismael, 2022).

II. LITERATURE REVIEW

Even the most fundamental aspects of a company may benefit from the technique articulated by KM (Faeq, 2022). KM is able to facilitate the execution of the majority of the business procedures that are typically carried out. The study assumed that the structure of work behavior was the only factor that had any impact on any aspect of work, including their presence and level of relevance (Abdulrahman et al., 2022). Al-Emran et al. (2018), on the other hand, analyzed the link between the production of employee creativity and overall efficiency (Anwar, 2017). This was done when the authors were examining how specific work qualities, such as innovation and employee growth, impact one another (Ismael et al., 2022). The strengths were not mentioned in any form once it was determined that the functional and motivational traits were the most essential; nonetheless, all of the attributes were still characterized as being connected to the creative generation (Anwar & Climis, 2017). Respect for the requirements of businesses is necessary for the maintenance of a sustainable and competitive market. It was noted by (Qader et al., 2022) that there has been an increase in KM training on the importance of skills such as the aforementioned elements for effective ecosystems for ongoing growth and green product development (Ismael, 2022). This led them to state that mentioning KP development as an important ecosystem element is necessary. According to Anwar & Louis (2017), KM is essential for developing and maintaining one's operational competence since it can be used to construct, store, and apply routines (Akoi et al., 2021). As a consequence of this, the KM approaches raise questions about the capacity and productivity of the supply chain, as well as distribution and the creation, storage, dissemination, and use of company knowledge (Ismael, 2022). However, significant progress has been made in certain areas, but it seems that a large number of factors, some of which overlap, are at play in others. This type of matrix (Sadq et al., 2020) is described as being diverse and intricate in the findings published by Ismael (2022). KM can be defined as the use of tools for record management, recording, record capture, regulations, or recovering knowledge (Faeq et al., 2022). This involves simply bringing everything that an employee encounters to light and having the ability to log (Qader et al., 2022), rate, code, harvest, and share facts, regulations, and details with people at the workgroup level in order to reduce the accumulation of missed information (Faeq & Ismael, 2022). Knowledge and application of KM have frequently enabled and increased a degree of physical activity; that is, it

enhances one's knowledge by making use of it, develops it via adoption, and disseminates it through application (Akoi & Andrea, 2020). In order to guarantee the continued success of a KM architecture, it is necessary to use a method that models both the infrastructure and the operations of the architecture (Faeq et al., 2021). According to Lee and Choi, KM enablers are a set of procedures that may be used by companies in order to achieve greater levels of consistency in their information utilization (Sabah et al., 2022). After KM, companies need to focus on common understanding. Every business has its own unique set of skills and competencies, but it can be challenging to spread awareness of this information throughout the company. If it is difficult to overcome this impediment (Ali et al., 2021), it will greatly constrain how organizations can raise their overall performance and how their competitive advantages may be recognized, codified, and then developed upon. This will have a big impact on how companies compete in the future (Faeq & Ismael, 2022). Because the phase approach has also been shown to be useful at the corporate level, we have come to the conclusion that SKM ought to be understood as a collection of the many measures that have been carried out. KM broadening emerged during the early days of a variety of applications in business, government, and the 1990s, which was also the decade when knowledge management first appeared in the fields of health, science, administration, and policy, as well as in the public sector, information technology, and library science (Ali et al., 2021). The educational, cognitive, scientific, scientific, industrial, informational, technological, and technological, as well as the algorithmic, computer science, scientific, and rational (Akoi et al., 2021) theories and behavioral measures of success, philosophies, and approaches, each in their own right, advocate and make use of computer technology (Jamil et al., 2022). It wasn't until the latter part of the 20th century that the notion of information management made its debut in the corporate world, but the first two decades of the 21st century were spent trying to figure out what it meant and how it worked. In this age of globalization, increasing market productivity, opening the market up to competition, and encouraging innovative thinking were the objectives of the knowledge management movement (Sadq et al., 2020). a method that systematically searches out, gathers, organizes, ferrets out, intensifies, and shines with its own data in order to better equip the company with the workforce for various tasks in the organization (Akoi & Yesiltas, 2020). However, management thinks that product and process innovation, executive decision-making, as well as organizational reform and renewal, must all be linked with knowledge. This is in addition to the roles that have been listed (Jamil et al., 2022). To elaborate on knowledge management, "s one of

the more recent breakthroughs in the fields of information studies and information management. It is generally regarded as an enormously significant topic in both of these subfields. It helps a company make better decisions and tackle problems in a more effective manner, which is a benefit to the organization as a whole (Saleh et al., 2021). This process is referred to as "knowledge management" because it involves not only the three functions of collecting, making, and using (which is the role of the curator), and spreading the word of what you've learned (producers), but also (ii) activities that go along with these functions and help you find new information (including obtaining, pooling, and organization), organize it, and release it (which also refers to administration). It is not feasible to talk of one thing as being "superior" to another item; rather, something can only be considered superior if it is more effective at achieving its goal than what came before it. Despite the fact that we do not yet have a theory of information management in the field of applied science at this time (Faeq, 2022), The principles of knowledge growth and knowledge transfer are at the center of knowledge management in firms and other types of organizations. Knowledge management encompasses a variety of knowledge domains, including processes, information technology (IT) methods, structures, capabilities, and initiatives, which frequently include preparation and decision-making (Ali et al., 2021). Information management is an interdisciplinary field that deals with various types of information and applies holistic perspectives to all aspects of product handling. One definition of information management describes it as "the application of holistic perspectives to all aspects of product handling." KMMs (key management machines management systems) include not only humans and machines but also the technological, logistical, and organizational components of key management machines management systems (Hamad et al., 2021). In order for various businesses to remain competitive in today's business environment, they have recognized the importance of incorporating knowledge management into their operations. lead diopter pointing to the right A knowledge management system is a type of information management system that makes use of information and communication technology (Ismael & Yesiltas, 2020) to assist in the management of information by delivering the appropriate information at the appropriate time (Gardi et al., 2021). When authors search for key words to learn new concepts, ideas, or ideas to uncover new key words, they are engaging in a practice that is sometimes referred to as "keyword mining" (Ismael et al., 2022). The strategies for managing information are quite diverse due to the fact that they originate from a variety of viewpoints and distinct areas of research, each of which is

predicated on the individual's personal perception of what there is to be discovered. M as a whole is not growing. Existing methodologies are not well understood, and competing approaches have not yet converged (Qader et al., 2021), despite the fact that the surrounding areas are still in the process of being created. The term "management of information systems and processes" refers to activities that go beyond the traditional realm of personnel management (Ismael et al., 2022). These activities include assisting with the training of staff members, organizing operations and projects, and motivating individuals to make efficient use of available resources. IOPs are something that can be described as something that deals with the expansion of information such as patents and guidelines and documents such as the industry's best practices and expertise as well as data in electronic records such as previous problems and approaches and everything else that is pertinent to an issue that is being worked on and that is known by teams and an organization, including their approach to solving it. The KM cycle encompasses not only the gathering of information but also its processing, creation, and utilization at all phases of the process (Hamza et al., 2021). The organization makes use of its information management function in order to monitor these procedures. In order to do so, it generates methods and design philosophies, and it also brings players on board. The aims of management are to guarantee an effective and productive flow of knowledge, to raise awareness, to optimize the understanding of knowledge processes, and to enhance business choices by having a hold on information. Although individuals are capable of putting all of the KM processes into action, the focus here should be on enhancing the ability of managers to allow individuals to take part in achieving these goals. Self-organizing societies are an example of a social mechanism. Larger communities are focused on enabling communication, while smaller communities try to combine individuals with like-mindedness. Groups that already exist to unite people strive to bring together those with diverse skill sets. It is necessary to have social processes since information originates most frequently in the minds of individuals, but it can only be disseminated through social groups and networks (Hussein et al., 2022). Although a lot of people feel that knowledge management is entirely dependent on contemporary information and communications technologies, The use of KM technology makes it substantially more human-intensive, despite the fact that knowledge generation already depends heavily on the personnel of the company (Faraj et al., 2021). It is seen as a product in the sense that it may be sold when information is considered to be one of the most valuable assets that a business possesses. To elaborate further, "Intelligence, which can be built from information, is at least to an even

greater level of comprehension of fundamental situations, causal relationships, and underlying rules (whether explicit or not), as well as to gain a better understanding of rules or theories that apply under said circumstances" (Anwar, 2017). It is also wide in the sense that its application helps all businesses expand and network, which includes the exchange of data as well as dealing with challenges in culture, which means that you may think about communication and finding solutions to queries that you might have. (Ali, 2021). There has been an increase in the need for both tactics and strategy as a result of an increased understanding of the value of information, techniques, and resources for maintaining the organization's expertise and ensuring its continued growth. This procedure will most likely make use of KM because it is the method that is both the most visible and the most efficient at facilitating change. In addition to this, the process of developing software is extremely fast, which necessitates an even higher level of physical agility. Second, the availability of resources is always growing, but the demands that businesses place on those resources are growing even faster, making it more difficult for technology firms to do so. The organization places equal importance on the program itself as it does on the processes, methodology, people, history, and working environment associated with the software development process. When businesses rely on multiple levels of software in the process, there is a necessity to more accurately identify, better manage, and more efficiently define the interests of consumers and markets. Additionally, there is a need to promote cooperation between software developers in order to meet these requirements (Anwar, 2016). When an individual knows something, or when it is immediately perceptible to them, they are said to have either tacit or explicit knowledge of the subject matter. When you are already accustomed to something, you do not become consciously aware that you have tacit awareness until much later. When one becomes used to something, it may become difficult to teach it to others or express its significance to them. Explicit data is not only able to be encoded and communicated, but it can also frequently be simply interpreted and comprehended in any given circumstance. This is in contrast to conventional information, which is frequently encoded and distributed. This idea asserts that information is an organization's most valuable resource, and as a result, it offers a core definition of KM, which states that an organization's knowledge and resources are its most valuable assets. One of the factors that goes into determining how successful an organization is at spreading information is the capacity of its workers to do so both within the organization and to make the most of the opportunities presented by the information. In a word, we are able to get things done because we are either aware of

the answer itself or of a source of knowledge that the answer is based on. The utilization of the entire workforce in an effort to establish clear goals and evaluation criteria is an essential part of knowledge-based management (KM). The goal of information management is not simply to provide access to the various types of knowledge that an organization might store; rather, its primary focus is on directing the most significant strategic applications of that knowledge. It's not just about giving people the knowledge; it's also about making sure they have it and that they recognize when they need it (Abdullah et al. 2017). One of the most important goals is to make sure that individuals have access to accurate information when they need it, when they need it, and in the proper context. One bad aspect of knowledge management is that no matter how much work you put into managing it, you just can't bring it anywhere near under control. This is true regardless of how much effort you put into controlling it. What we are able to do, and what the KM elements are all about, is encourage people to be creative by helping them develop their capabilities and come up with their own ideas, and then motivate them to create knowledge, disseminate it, use it, and receive it for the benefit of the company, its employees, and its customers (Anwar & Balcioglu, 2016). When it comes to the cultures of many different types of businesses, information management is a very pertinent topic. Despite the fact that the phrase "knowledge management know-how" may be defined in a straightforward manner, there are a variety of perspectives and applications; at least three of them do not make use of this ability. However, as the rate of market expansion quickens, so does the significance of developing a strategy that is both lucrative and conducive to competition (Demir et al. 2020). In addition, Martins et al. (2019) argue that one-of-a-kind project needs ought to be accompanied by one's very own set of project specifications, which may include milestones, technological standards, constraints, and limitations. They also left the subject of which components are to be utilized open to interpretation by the contractor; however, none of these things are specified because the team has a provision that says it's okay for them to do so. The findings of other research corroborate the findings of Anwar and Abd Zebari (2015), which say that designing a project also needs paying attention to the final results, in addition to management controls, in order to establish project authority. In the PMI's organizational description, the tasks, deadlines, scope, and responsibilities are broken down by corporate, departmental, and financial scope, accordingly (Gaviria-Marin et al. 2018). On the other hand, the project has cooperated with the best methods for addressing these criteria; nonetheless, the obstacle is the management limit. For instance, the only direct relationship that the project's

sponsor has to the prime minister is through the initiative itself. Because of this, the progress of the project has slowed down. According to Anwar (2017), a bad performance of a project may be ascribed to leadership or may be an excuse to have less support from sponsors. In the event that the scope of the project is specified, the ideas will be implemented. While expanding [the scope of] the horizons of his objectives, there are also a few small inconsistencies and contradictions in the doctrines that he holds. There are never any criteria for the software that is included in the project at any point. Another issue that has arisen as a result of this circumstance concerns the management body of the project, which is the Iraqi administration. This body is accountable for the whole project management process. It has been decided that the Prime Minister of Iraq will be in charge of all of the activities that take place in the Kurdistan Region of Iraq. This has led to a number of issues, particularly considering the prime minister's extensive involvement in the ongoing crisis in Iraq's Kurdistan. Because of this, the Prime Minister would be unable to handle the project, and there would be no meeting arranged with the sponsors. "To incorporate all of the needed tasks while excluding any superfluous activity," according to the PMI, the following should be done: According to the Project Management Institute (PMI), the definition of project scope control is "to contain all of the needed activities, as well as zero of the superfluous ones" (Ferraris et al. 2019). According to Ali (2020), the most advancement may be made in the course of a project's implementation by taking a cautious approach and being faithful to the life cycle. If one wants to be successful, however, they must stick to this methodology in order to accomplish so. Magnus, (2030-2030), development plan If the project's scope is not sufficiently planned, then effort will be wasted, money will be squandered, time will be used inefficiently, and resources will be employed erroneously; hence, good management of the project's scope is of the utmost significance. A great deal of influence is also exerted on the scope control value by other factors, such as the number of activities and the number of people working on a project. On the other side, the project has been made more difficult due to increased scrutiny of the project's scope. Certain processes and actions are included as part of the scope of the project, although this list is not exhaustive. As a result, the first step of the project is to engage stakeholders with the purpose of collecting requirements to produce a project charter or development papers that have their support. Due to the fact that the approach that required project requirements to be acquired by means of conducting interviews was shown to be unsatisfactory, the project needed to proceed to the next phase in the process. When all is said and done, the project plan for the project will ultimately be determined on the

basis of these interviews. Nevertheless, the purpose of this study is to identify significant characteristics in the most accurate manner possible. Interviews are nonetheless going to be employed in the research project to collect crucial data; however, there are a great many alternative methods that are far more suited to the task of gathering this information. It is often not the most effective method to organize things to have two different ways of completing a single set of responsibilities or to bring different groups of individuals together and have them work on a project as a single entity (Al-Emran et al. 2018). As a consequence of this, the project now has access to a greater pool of resources, and as a consequence of this, additional tactics, such as group creative approaches, are utilized in order to expand the number of needs. Investment choices are determined by a company's financial situation; according to Hameed and Anwar (2018), these choices are significantly influenced by the analysis of various financial factors, which offer guidance to company executives regarding whether or not the proposed investments are feasible. Also, in accordance with the findings of Anwar and Ghafoor (2017), it is essential to conduct financial forecasting when determining the target of the project in order to compute the net present value (NPV) and the internal rate of return (IR) by making use of cash flow numbers that are derived from the project (Anwar, 2016). Because the primary emphasis of the program is on improving community systems, the financial analysis comes to the conclusion that there is a potential financial gain that the government may be unable to take advantage of. Gardeabal et al. discovered that the findings may be obtained by moving on to the second stage of their net present value calculation. This step involves doing a calculation that takes into account both the rate of return on money and the time value of money. Finally, Infrastructure (Barley et al. 2018) calculates "net present value" (which means future money in the cash equivalent) as the amount of a given stream of cash inflows, the estimated money's actual value at the moment, and the value in the money at which they were stated at the stated moment of "now." In other words, "net present value" equals the amount of future money in cash equivalent. "The net present value (or NPV) technique is used in capital budgeting for difficult enterprises to determine how much of the income would be generated by cash flows (or how much it would cost to deposit in the bank).""The NPV approach is used to determine how much it costs to put in the bank" (Abdullah et al. 2017). Because of this, NPVesting includes stakeholders in the process of making investment decisions; hence, it is beneficial for individuals to have a comprehensive awareness of the many investment options available to them. In addition, Anwar and Baloglu write (2016) that IR serves as a tool for identifying whether a

project is on track or ahead of schedule. This is because the intrinsic rate of return is equal to zero when one looks at the net present value. Increasing interest rates have an additional impact on the variety of investment choices available. A project life cycle is a series of projects aimed at achieving a number of management and control objectives, and who or what is involved in and defined as part of the project. Projects are composed of the various elements that have been geared toward a set of management and control goals and deployed in several contexts, as described by the Project Management Institute (PMI) (Zaim et al. 2019). According to Anwar and Qadir (2017), the phases of a project's life cycle comprise start-up decisions, project evaluations, and conclusion. These three stages are included in the reference to the life cycle of a project (also referred to in a few places as process evaluations [start to end]). According to Anwar, the life cycle of the project consists of many phases, each of which requires the project stakeholders to establish project priorities and monitor sources along the way. As a consequence, decisions need to be made regarding the monitoring of the project life cycle and the achievement of milestones.

III. METHODOLOGY

Through the utilization of knowledge management as a mediator and the combination of knowledge management ideas, the purpose of this study was to find a way to boost the productivity of the carpet manufacturing process. The researchers evaluated the production levels of various cement companies based on four different aspects of knowledge management: first, the creation of knowledge; second, human capital; third, knowledge sharing; and fourth, the application of knowledge, with knowledge management serving as a mediator. A quantitative analytic technique was taken by the researchers, and they employed a survey as the primary data collection tool. The questionnaire was sent at random to 140 administrative staff members working for a variety of carpet manufacturers located in the Kurdistan area. Despite this, the researchers were successful in gathering a total of 128 completed surveys. On the Likert scale, each item in the questionnaire was given a score between one and five, with one representing strong disagreement, two representing disagreement, three representing neutrality, four representing agreement, and five representing strong agreement. After the data collection phase was finished, every piece of information was put through an SPSS analysis to determine how to improve the performance of the carpet manufacturing process through the utilization of knowledge management principles and a project management development program as a mediator.

Research Hypotheses

H1: Knowledge management mediates Knowledge creation as knowledge management element to production management of carpet manufacture.

H2: Knowledge management mediates Knowledge storage as knowledge management element to production management of carpet manufacture.

H3: Knowledge management mediates knowledge sharing as knowledge management element to production management of carpet manufacture.

H4: Knowledge management mediates Knowledge application as knowledge management element to production management of carpet manufacture.

Table 1- KMO and Bartlett Sphericity Test of Self-rating Items

Factors	N of items	n	KMO	Bartlett test	
				Chi-Square	Sig
Knowledge creation	8	139	.731	2.009	.000
Knowledge storage	10	139			
Knowledge Sharing	12	139			
Knowledge application	9	139			

As we can see in table (1), the result of KMO for all independent variables (Knowledge creation as knowledge management element, Knowledge storage as knowledge management element, knowledge sharing as knowledge management element, and Knowledge application as

mediator and production management of carpet manufacture as dependent variable r; is .731 which is higher than .001 this indicates that the sample size used for the current study was more than adequate. Furthermore, the result of Chi-Square is 2.009 with the significant level .000.

Table 2: Reliability analysis

Variables	N of items	n	Cronbach's Alpha
Knowledge creation	8	139	.731
Knowledge storage	10	139	.735
Knowledge Sharing	12	139	.729
Knowledge application	9	139	.761
Knowledge management	10	139	.775
Production management	10	139	.791

As seen in table (2), the reliability analysis for 60 items used to measure the influence of all independent variables (Knowledge creation as knowledge management element, Knowledge storage as knowledge management element, knowledge sharing as knowledge management element, and Knowledge application as knowledge management element), knowledge management as mediator and production management of carpet manufacture as dependent variable. The above questions were distributed as follow; 8 items for Knowledge creation as knowledge management element, 10 items for Knowledge storage as knowledge management element, 12 items for knowledge sharing as knowledge management element, 9 items for Knowledge application as knowledge management element, 10 items for knowledge management as a mediator, and 10 items for production management at carpet manufacture as

a dependent variable. The researchers applied reliability analysis to find out the reliability for each factor, the findings revealed as follow: as for Knowledge creation as knowledge management element was found the Alpha to be .731 with the sample size of 128 for 10 questions which indicated that all 10 questions used to measure Knowledge creation as knowledge management element were reliable for the current study, as for Knowledge storage as knowledge management element was found the Alpha to be .735 with the sample size of 128 for 9 questions which indicated that all 9 questions used to measure Knowledge storage as knowledge management element were reliable for the current study, as for knowledge sharing as knowledge management element was found the Alpha to be .729 with the sample size of 128 for 11 questions which indicated that all 11 questions used to measure knowledge

sharing as knowledge management element were reliable for the current study, as for Knowledge application as knowledge management element was found the Alpha to be .761 the sample size of 128 for 10 questions which indicated that all 10 questions used to measure Knowledge application as knowledge management element were reliable for the current study, as for knowledge management as a mediator was found the Alpha to be .775

the sample size of 128 for 10 questions which indicated that all 10 questions used to measure knowledge management as a mediator were reliable for the current study, and as for Production management as a dependent variable was found the Alpha to be .791 the sample size of 128 for 10 questions which indicated that all 10 questions used to measure Production management as a dependent variable were reliable for the current study.

Table 3: Correlation Analysis

Correlations							
		IT	HR	KS	OC	Production Management	EP
Knowledge creation	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	139					
Knowledge storage	Pearson Correlation	.614**	1				
	Sig. (2-tailed)	.000					
	N	128	128				
Knowledge sharing	Pearson Correlation	.574**	.591**	1			
	Sig. (2-tailed)	.000	.000				
	N	128	128	128			
Knowledge application	Pearson Correlation	.619**	.614**	.614**	1		
	Sig. (2-tailed)	.000	.001	.000			
	N	128	128	128	128		

As it can be seen in table (3), the correlation analysis among independent variables (Knowledge creation as knowledge management element, Knowledge storage as knowledge management element, knowledge sharing as knowledge management element, and Knowledge application as knowledge management element), knowledge management as mediator and production management of carpet manufacture as dependent variable. The finding revealed that the value of Pearson correlation ($r = .512^{**}$, $p < 0.01$), between Knowledge creation as knowledge management element this indicated that there is positive and strong correlation between Knowledge creation as knowledge management element and production management at carpet manufacture, the value of Pearson correlation ($r = .641^{**}$, $p < 0.01$), between Knowledge storage as knowledge

management element this indicated that there is positive and strong correlation between Knowledge storage as knowledge management element and production management at carpet manufacture, the value of Pearson correlation ($r = .644^{**}$, $p < 0.01$), between knowledge sharing as knowledge management element this indicated that there is positive and strong correlation between knowledge sharing as knowledge management element and production management at carpet manufacture, the value of Pearson correlation ($r = .521^{**}$, $p < 0.01$), between Knowledge application as knowledge management element this indicated that there is positive and strong correlation between knowledge sharing as knowledge management element and production management at carpet manufacture, and the value of Pearson correlation ($r = .679^{**}$, $p < 0.01$),

between knowledge management as mediator this indicated that there is positive and strong correlation between knowledge management as mediator and production management at carpet manufacture.

H1: Knowledge management mediates Knowledge creation as knowledge management element to production management of carpet manufacture.

Table 4-Hierarchal Multiple Regression

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.005	.2021		2.326	.000
	Knowledge creation	.591	.029	.619	2.365	.000
2	(Constant)	1.235	.132		2.251	.000
	Knowledge creation	.619	.072	.629	1.3621	.000
	Production Management	.672	.025	.679	1.932	.000
a. Dependent Variable: Production management						

Table (4), demonstrates a hierarchal multiple regression analysis to investigate first research hypothesis which stated that Knowledge management mediates Knowledge creation as knowledge management element to production management of carpet manufacture. Concerning model (1) the direct relationship between Knowledge creation as knowledge management element and production management at carpet manufacture, the value of B = .591, the value of Beta = .619 with P-value =.000 this indicated that there is a significant and positive relationship between Knowledge creation as knowledge management element and production management at carpet manufacture and enhanced production at carpet manufacture. As for model (2) which applied multiple regression analysis to find both Knowledge creation as knowledge management element as independent factor and knowledge management as a mediator factor with enhanced production at carpet manufacture as dependent factor, the findings showed that

the value of B =.619, the value of Beta = .629 with P-value .001 as indirect relationship between Knowledge creation as knowledge management element and enhanced production at carpet manufacture, on the other hand, the value of B =.672, the value of Beta = .679 with P-value .000 as mediation between knowledge management and enhanced production at carpet manufacture. The findings proved that there is a positive and significant direct and indirect relationship between Knowledge creation as knowledge management element and enhanced production at carpet manufacture, moreover enhanced production at carpet manufacture has a positive and significant mediating role between Knowledge creation as knowledge management element and enhanced production at carpet manufacture.

H2: Knowledge management mediates Knowledge storage as knowledge management element to production management of carpet manufacture.

Table 5: Hierarchal Multiple Regression

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.112	.123		3.352	.000
	Knowledge storage	.519	.038	.544	3.251	.000

2	(Constant)	1.325	.121		2.369	.000
	Knowledge storage	.619	.015	.633	2.363	.000
	Production Management	.629	.031	.638	1.259	.000
a. Dependent Variable: Production management						

Table (5), demonstrates a hierarchal multiple regression analysis to investigate second research hypothesis which stated that Knowledge management mediates Knowledge storage as knowledge management element with enhanced production at carpet manufacture. Concerning model (1) the direct relationship between Knowledge storage as knowledge management element and enhanced production at carpet manufacture, the value of B = .519, the value of Beta = .544 with P-value =.000 this indicated that there is a significant and positive relationship between Knowledge storage as knowledge management element and enhanced production at carpet manufacture. As for model (2) which applied multiple regression analysis to find both Knowledge storage as knowledge management element as independent factor and Knowledge management as a mediator factor with enhanced production at carpet manufacture as dependent factor, the findings showed that the value of B =.619, the value of Beta = .633 with P-value .001 as indirect

relationship between Knowledge storage as knowledge management element and enhanced production at carpet manufacture, on the other hand, the value of B =.629, the value of Beta = .638 with P-value .000 as mediation between Knowledge management and enhanced production at carpet manufacture. The findings proved that there is a positive and significant direct and indirect relationship between Knowledge storage as knowledge management element and enhanced production at carpet manufacture, moreover knowledge management has a positive and significant mediating role between Knowledge storage as knowledge management element and enhanced production at carpet manufacture.

H3: Knowledge management mediates knowledge sharing as knowledge management element to production management of carpet manufacture.

Table 7: Hierarchal Multiple Regression

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.112	.1551		2.021	.000
	Knowledge sharing	.491	.029	.509	2.195	.000
2	(Constant)	1.522	.325		1.932	.000
	Knowledge sharing	.507	.031	.539	1.252	.000
	Production Management	.577	.093	.619	1.298	.000
a. Dependent Variable: Production management						

Table (7), demonstrates a hierarchal multiple regression analysis to investigate third research hypothesis which stated that Knowledge management mediates Knowledge sharing as knowledge management element with production management of carpet manufacture. Concerning model (1) the direct relationship between Knowledge sharing as knowledge management element and production management of carpet manufacture, the value of B = .491, the value of Beta = .509 with P-value =.000 this indicated that there is a significant and positive relationship between Knowledge sharing as knowledge management element and

production management of carpet manufacture. As for model (2) which applied multiple regression analysis to find both Knowledge sharing as knowledge management element as independent factor and Knowledge management as a mediator factor with production management of carpet manufacture as dependent factor, the findings showed that the value of B =.507, the value of Beta = .539 with P-value .001 as indirect relationship between Knowledge sharing as knowledge management element and production management of carpet manufacture, on the other hand, the value of B =.577, the value of Beta = .619 with P-value .000

as mediation between Knowledge management and production management of carpet manufacture. The findings proved that there is a positive and significant direct and indirect relationship between Knowledge sharing as knowledge management element and production management of carpet manufacture, moreover knowledge management has a positive and significant mediating role

between Knowledge sharing as knowledge management element and marketing experience.

H4: Knowledge management mediates Knowledge application as knowledge management element to production management of carpet manufacture

Table 9: Hierarchal Multiple Regression

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.925	.2315		1.362	.000
	Knowledge application	.569	.093	.522	1.521	.000
2	(Constant)	1.632	.052		1.362	.000
	Knowledge application	.529	.093	.591	1.635	.000
	Production Management	.629	.093	.619	1.251	.000
a. Dependent Variable: Production management						

Table (9), demonstrates a hierarchal multiple regression analysis to investigate fourth research hypothesis which stated that Knowledge management mediates Knowledge application as knowledge management element with production management of carpet manufacture. Concerning model (1) the direct relationship between Knowledge application as knowledge management element and production management of carpet manufacture, the value of B = .569, the value of Beta = .522 with P-value = .000 this indicated that there is a significant and positive relationship between Knowledge application as knowledge management element and production management of carpet manufacture. As for model (2) which applied multiple regression analysis to find both Knowledge application as knowledge management element as independent factor and Knowledge management as a mediator factor with production management of carpet manufacture as dependent factor, the findings showed that the value of B = .529, the value of Beta = .591 with P-value .001 as indirect relationship between Knowledge application as knowledge management element and production management of carpet manufacture, on the other hand, the value of B = .629, the value of Beta = .619 with P-value .000 as mediation between Knowledge management and production management of carpet manufacture. The findings proved that there is a positive and significant direct and indirect relationship between Knowledge application as knowledge management element and production management of carpet manufacture, moreover knowledge management has a positive and

significant mediating role between Knowledge application as knowledge management element and production management of carpet manufacture.

IV. CONCLUSION

This article discusses both the knowledge principle and the knowledge management approach for the purpose of accomplishing operational goals. As a direct result of the increased level of competitiveness on the world stage, a number of companies have recently encountered difficulties in the areas of recognition and knowledge management on both a local and a global scale. According to the conclusions of the study, information management, also known as KM, would assist businesses in increasing their productivity by fostering the creation, dissemination, retention, and application of knowledge. We have investigated the history of knowledge management (KM), in addition to its many procedures and models. In addition, we contributed to the article by talking about the benefits, significance, and drawbacks of using an information management system and incorporating that material into our discussion. We made an effort to show how the difficulties and impediments that arise during the adoption of KM in companies may be circumvented. At long last, the distinctive traits of an information management system have been brought to light. The study reveals that information management, also known as knowledge management (KM), is extremely

important for the long-term survival of a business, both today and in the future.

The purpose of this research was to enhance the quality management of carpet production by combining components of knowledge management and using knowledge management as a mediator. Knowledge development, knowledge storage, knowledge sharing, and knowledge application were the four aspects of knowledge management that the researchers used in the study to quantify improvements in output at cement companies. Knowledge management served as a mediator between these four aspects of knowledge management. Both hierarchical multiple regression analysis and the Sobel test were utilized by the researchers so that the produced study hypotheses could be evaluated. Concerning the first study hypothesis, it is proposed that knowledge management acts as a mediator between knowledge development and knowledge management as a function of knowledge management in carpet manufacturing production management. According to the findings, there is a positive and significant direct and indirect relationship between enhanced carpet manufacturing production and knowledge creation as an element of knowledge management. Furthermore, there is a positive and significant mediating function for knowledge management between knowledge creation as an element of knowledge management and enhanced carpet manufacturing production. Concerning the second study hypothesis, knowledge management as a knowledge management component to carpet manufacturing production management mediates knowledge storage. This is a feature of knowledge management that is related to knowledge management. According to the findings, there is a positive and significant direct and indirect relationship between increased carpet production and increased carpet production, and cultural experience plays a positive and significant mediating role between increased carpet production and increased carpet production. In addition, there is a positive and significant relationship between increased carpet production and increased carpet production. Concerning the third study hypothesis, it is said that knowledge management functions as a mediator between information sharing and knowledge sharing functions in carpet manufacturing production management. According to the findings, there is a positive and significant direct and indirect relationship between carpet manufacturing production management and knowledge sharing as an element of knowledge management. Furthermore, there is a positive and significant mediating function for knowledge management between knowledge sharing as an element of knowledge management and carpet manufacturing production management. In conclusion, the fourth study hypothesis is

that knowledge management mediates the application of knowledge as a knowledge management component to carpet manufacturing production management. According to the findings, there is a positive and significant direct and indirect relationship between knowledge application as an element of knowledge management and carpet manufacturing production management. Furthermore, there is a positive and significant mediating function for knowledge management in the relationship between knowledge application as an element of knowledge management and carpet manufacturing production management.

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