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Explaining the Relationship Model Between Knowledge Management and Individual Performance in the Directorate of Sports and Youth of Diyala Province, Iraq

ABSTRACT

Today, organizations require new knowledge to enhance their capabilities and foster a healthy organizational climate, and the acquisition of new knowledge necessitates the establishment of a knowledge-oriented management system within the organization. In fact, knowledge-based management is regarded as an important approach to employee empowerment and to improving organizational efficiency, effectiveness, and health. The present study aimed to explain the relationship between knowledge management and the individual performance of employees in the Directorate of Sports and Youth of Diyala Province, Iraq. The statistical population of the study consisted of employees of the General Directorate of Sports and Youth of Diyala Province, Iraq. The sample size was determined based on the Krejcie and Morgan sample size table, and participants were selected through random sampling. The measurement instruments included a demographic information questionnaire, a knowledge management questionnaire, and an individual performance questionnaire. Descriptive and inferential statistical methods, SPSS software, and structural equation modeling (SEM) were used to analyze the data. The results indicated a statistically significant relationship between knowledge management and individual performance in the Directorate of Sports and Youth of Diyala Province, Iraq ($p < .001$). Knowledge management and its dimensions can contribute to the enhancement of individual performance. More specifically, the four dimensions of knowledge management—knowledge socialization, knowledge externalization, knowledge combination, and knowledge internalization—can influence individual performance and thereby enhance the effectiveness of the activities undertaken by the General Directorate of Sports and Youth. This study can contribute to improving individual performance through knowledge management in the Directorate of Sports and Youth of Diyala Province, Iraq, and its recommendations may provide practical guidance for sports administrators and managers.

Keywords: Knowledge management, individual performance, employees, sports, Iraq

Introduction

In contemporary organizations, knowledge has become one of the most strategically important resources for sustaining competitiveness, enhancing organizational adaptability, and improving employee and organizational performance. Unlike conventional tangible resources, knowledge can be continuously developed, recombined, transferred, and applied across organizational processes, enabling institutions to respond more effectively to environmental complexity and rapidly changing stakeholder expectations. The growing emphasis on knowledge-based competition has therefore shifted managerial attention from the mere possession of information toward the systematic creation, sharing, integration, and utilization of knowledge. Knowledge management provides an organizational framework through which explicit and tacit forms of knowledge can be identified, acquired, developed, stored, exchanged, and applied to improve decision-making and work

outcomes. Recent scholarship has increasingly demonstrated that knowledge management contributes not only to organizational efficiency but also to sustainability, innovation, responsiveness, and the long-term development of institutional capabilities. For example, knowledge-management infrastructure has been linked to sustainable performance through organizational ambidexterity, indicating that institutions capable of simultaneously exploiting existing knowledge and exploring new knowledge are better positioned to generate enduring performance outcomes [1]. Similarly, contemporary research on organizational sustainability shows that knowledge-related capabilities interact with leadership, innovation, and strategic systems to strengthen performance in complex environments [2]. These developments underscore the importance of understanding knowledge management not simply as an information-processing function but as a dynamic organizational capability that shapes how employees learn, perform, cooperate, and transform knowledge into productive outcomes.

Knowledge management is particularly important because organizational knowledge exists in multiple forms and is often distributed among employees, routines, experiences, databases, and social relationships. A substantial portion of organizational knowledge is tacit, meaning that it is embedded in individuals' experience, intuition, skills, and practical understanding and cannot always be easily codified. Organizations therefore require mechanisms that enable employees to exchange experience, articulate implicit knowledge, integrate different sources of explicit information, and internalize newly acquired knowledge through practical application. The processes of socialization, externalization, combination, and internalization provide an influential conceptualization of how organizational knowledge develops and circulates. Socialization involves the sharing of tacit knowledge through interaction and common experiences; externalization transforms tacit understanding into explicit concepts; combination integrates different forms of explicit knowledge; and internalization converts explicit knowledge into employees' practical and tacit understanding. The effective functioning of these processes can strengthen both organizational knowledge resources and individual employee capabilities. Recent research on tacit knowledge management confirms that the effective management of tacit knowledge can improve organizational outcomes through mechanisms such as task efficiency, trust, and innovation [3]. Likewise, research on knowledge governance suggests that the ways organizations structure, regulate, and facilitate knowledge processes can exert an important influence on innovative employee performance [4]. Consequently, examining knowledge management at the employee level is essential because organizational knowledge ultimately generates value when individuals are able to absorb, interpret, share, and apply it in their daily work.

Individual performance is a central construct in management research because the collective effectiveness of an organization depends substantially on the quality, consistency, and productivity of the work performed by its employees. Individual performance reflects the extent to which employees successfully perform assigned duties, achieve work objectives, solve problems, use organizational resources efficiently, and contribute to broader organizational goals. In public-sector and service organizations, employee performance has particular importance because institutional effectiveness is often directly influenced by the quality of human-resource capabilities and the extent to which employees can convert organizational knowledge into timely and effective action. Knowledge management can improve individual performance by reducing duplication of effort, facilitating access to previous experience, increasing the quality of decision-making, promoting learning, and enabling employees to respond more efficiently to work-related problems. Evidence from organizational research indicates that employees' engagement in knowledge-management activities plays an important role in translating organizational knowledge practices into higher knowledge-worker productivity [5]. In addition, the networking and

knowledge capabilities of employees have been shown to interact with productivity and innovation in ways that contribute to sustainable organizational performance [6]. These findings suggest that the relationship between knowledge management and performance should not be viewed merely at the organizational level; rather, individual employees represent a critical mechanism through which knowledge-management processes are transformed into tangible performance outcomes.

The empirical relationship between knowledge management and employee productivity has received increasing attention across diverse organizational settings. Studies of industrial and governmental organizations indicate that the development and application of knowledge-management components can strengthen human-resource productivity by improving access to relevant knowledge, facilitating employee learning, and increasing the efficiency of organizational processes. Research conducted among industrial organizations has demonstrated that components of knowledge management can significantly influence human-resource productivity, highlighting the value of systematic knowledge processes in enhancing employees' work effectiveness [7]. Similarly, evidence from firefighting and safety-service organizations indicates that knowledge-management components are meaningfully associated with employee productivity, even in operational settings characterized by high levels of responsibility and the need for rapid decision-making [8]. At a broader organizational level, knowledge-management strategies have also been associated with productivity in government institutions, supporting the argument that knowledge acquisition, sharing, storage, and utilization are important determinants of organizational effectiveness in the public sector [9]. Such findings are particularly relevant to public organizations because their effectiveness depends not only on formal administrative rules and material resources but also on the capacity of employees to access, transfer, and use organizational knowledge effectively.

The relationship between knowledge management and performance is also shaped by the broader organizational environment in which knowledge is generated and applied. Leadership practices, organizational culture, work environment, and institutional capabilities can influence whether employees are encouraged to share knowledge or whether knowledge remains fragmented across organizational units. Transformational leadership, for example, can strengthen organizational performance partly by enhancing knowledge-management capability, because leaders who encourage learning, participation, and intellectual stimulation create conditions in which knowledge can be more effectively developed and exchanged [10]. At the employee level, the work environment and knowledge-management practices have likewise been found to influence performance, suggesting that organizational support for knowledge processes can generate direct implications for employees' effectiveness [11]. These findings are consistent with the broader understanding that knowledge management is not simply a technical system but a social and managerial process that depends on leadership, communication, trust, organizational structure, and employee motivation. From this perspective, organizations seeking to improve individual performance must create conditions in which knowledge sharing is encouraged, employees have access to relevant information and expertise, and newly acquired knowledge can be converted into practical improvements in job performance.

Knowledge management has also become increasingly important in environments characterized by technological transformation, data-intensive decision-making, and innovation. Contemporary organizations are required to process increasing volumes of information while simultaneously distinguishing between information that is merely available and knowledge that can meaningfully support decision-making and performance improvement. Big-data-driven knowledge frameworks illustrate how the systematic integration of data and organizational knowledge can improve risk prediction and optimize performance by allowing managers and employees to identify patterns that would otherwise remain difficult to

detect [12]. Similarly, the integration of knowledge has emerged as a critical mediating capability linking technological and strategic resources to sustainable organizational performance. Research examining artificial intelligence capability, green business strategies, and supply-chain management has demonstrated that knowledge integration plays an important role in converting organizational capabilities into innovation and sustainable performance outcomes [13]. These findings reinforce the proposition that knowledge management is increasingly central to performance in technologically evolving organizational environments, because employees must not only obtain information but also integrate diverse knowledge sources and translate them into appropriate actions. Even in organizations that are not primarily technology-driven, the principles of knowledge integration remain highly relevant because fragmented information, weak communication, and limited sharing of professional expertise can reduce the effectiveness of individual employees and organizational units.

Another important development in the knowledge-management literature concerns its relationship with sustainable, innovative, and socially responsible organizational performance. Knowledge-management systems can facilitate organizational learning and enable institutions to reconcile economic, social, and environmental objectives by ensuring that relevant knowledge is available to decision-makers and employees. For example, research has demonstrated that knowledge-management infrastructure can contribute to sustainable performance when organizations develop the ability to balance exploration and exploitation activities [1]. Studies addressing sustainability-related organizational systems have similarly shown that performance depends on organizational capacities for managing information, integrating knowledge, and developing practices aligned with long-term institutional objectives [14]. In addition, evidence from customer knowledge management demonstrates that systematically acquiring and utilizing stakeholder-related knowledge can improve innovation capability and business performance [15]. These findings demonstrate that the performance implications of knowledge management extend beyond conventional productivity measures. Knowledge processes can strengthen responsiveness, innovation, sustainability, and stakeholder-oriented decision-making, all of which ultimately depend on the capacity of employees to utilize knowledge within their respective roles.

The growing strategic importance of knowledge management is particularly evident in public administration and public policymaking. Government organizations frequently operate within highly institutionalized structures and must respond to multiple stakeholders, regulatory requirements, administrative procedures, and public expectations. In such settings, knowledge may be dispersed across departments, professional groups, levels of management, and formal documentation systems. Without effective mechanisms for knowledge exchange and institutional learning, valuable organizational experience can remain isolated, resulting in repeated errors, inefficient decision-making, and reduced employee effectiveness. A bibliometric analysis of knowledge-management support for public policymaking indicates that the role of knowledge management in public-sector decision processes has become an increasingly important research domain, while also revealing the continued need to understand how knowledge processes can more effectively support policy and administrative performance [16]. From a values-based perspective, knowledge management has also been conceptualized as an approach capable of promoting organizational performance through responsible acquisition, dissemination, and application of knowledge, including within frameworks informed by Islamic teachings [17]. Such perspectives are relevant in Middle Eastern public organizations, where institutional practices may be shaped simultaneously by formal administrative systems, cultural norms, professional values, and locally embedded patterns of knowledge exchange.

Sport organizations constitute a particularly important context for examining these relationships. Sports and youth administrations require coordination among managerial, administrative, technical, and support personnel and must manage knowledge concerning programs, athletes, youth activities, facilities, regulations, planning, budgeting, stakeholder relationships, and service delivery. The performance of employees within such organizations directly affects the quality and efficiency of sports and youth services. However, as in many public-sector organizations, knowledge may remain concentrated within experienced employees or individual units rather than being systematically transferred across the institution. The departure, reassignment, or retirement of experienced personnel can therefore lead to the loss of valuable tacit knowledge unless organizational mechanisms exist for transferring experience and converting it into accessible institutional knowledge. Knowledge socialization can facilitate the transfer of practical experience among employees; externalization can help convert experience into formal procedures and documentation; combination can allow separate information sources to be integrated into coherent organizational knowledge; and internalization can enable employees to transform documented knowledge into practical competencies. In this respect, the knowledge-management process offers a theoretically relevant framework for understanding how sport administrations can improve individual and institutional effectiveness.

The significance of this issue is heightened by evidence that knowledge-based capabilities are increasingly intertwined with employee creativity, organizational innovation, and sustainable performance. Organizations that create supportive psychological climates and inclusive environments are more likely to encourage employees to contribute ideas, share knowledge, and develop creative solutions, which can ultimately improve wider organizational outcomes [2]. Moreover, knowledge governance can influence the innovative performance of employees by establishing structures and mechanisms through which knowledge is exchanged and applied [4]. Research on tacit knowledge management also demonstrates that affective trust can facilitate the transformation of tacit knowledge processes into innovation and organizational performance outcomes [3]. These findings are important for administrative sport organizations because employee performance in such institutions is unlikely to depend solely on formal job descriptions. Employees must frequently coordinate, communicate, solve operational problems, respond to changing circumstances, and rely on organizational experience. Consequently, the extent to which knowledge-management processes are embedded in employees' everyday activities may substantially influence their individual performance.

Despite the growing international literature on knowledge management, significant contextual gaps remain. Much of the existing evidence has been generated in private companies, industrial enterprises, financial institutions, supply chains, technology-intensive organizations, or specialized public services. Current studies have demonstrated relationships between knowledge management and worker productivity [5], human-resource productivity [7], employee productivity in municipal emergency services [8], organizational productivity in governmental institutions [9], and employee performance in corporate settings [11]. Research has also connected knowledge-management capability with organizational performance under transformational leadership [10], while newer studies increasingly examine knowledge integration in relation to technological and sustainability-oriented capabilities [13]. Nevertheless, relatively less empirical attention has been devoted to the relationship between knowledge management and individual employee performance within public sports and youth administrations in Iraq. Organizational structures, administrative practices, resource limitations, cultural conditions, and

patterns of interpersonal knowledge sharing may differ substantially across national and institutional contexts; therefore, findings obtained in other sectors or countries cannot automatically be assumed to apply to Iraqi sport organizations.

The Directorate of Sports and Youth of Diyala Province represents a context in which effective knowledge management may be especially consequential. Its employees are expected to carry out administrative and operational responsibilities associated with sports and youth affairs while functioning within a public organizational structure that requires coordination, institutional continuity, and effective use of accumulated professional experience. If knowledge remains individualized rather than organizationally shared, employee performance may depend excessively on personal experience and informal access to colleagues. Conversely, when knowledge is systematically socialized, externalized, combined, and internalized, employees may be better able to perform tasks efficiently, learn from organizational experience, make informed decisions, and contribute to institutional objectives. The increasing recognition of knowledge as a strategic resource, together with evidence linking knowledge-management processes to employee productivity, organizational innovation, and sustainable performance across different sectors, provides a strong rationale for empirically examining this relationship in the Iraqi sports administration context [6, 12, 15]. Such an investigation can contribute both theoretically, by extending knowledge-management research into an underexamined public sport setting, and practically, by providing evidence that may assist sport administrators in designing organizational practices that strengthen employee performance through more effective management of knowledge.

Accordingly, the aim of the present study was to explain the relationship between knowledge management and individual performance among employees of the Directorate of Sports and Youth of Diyala Province, Iraq.

Methodology

The present study employed an applied, field-based, descriptive-correlational research design to examine the relationship between knowledge management and individual performance among employees of the Directorate of Sports and Youth of Diyala Province, Iraq. The study was conducted in a natural organizational setting without manipulation of the study variables, and the correlational design was considered appropriate because the primary objective was to determine the extent to which knowledge management and its dimensions were associated with employees' individual performance. The statistical population consisted of all employees working in the Directorate of Sports and Youth of Diyala Province, Iraq. Because the population was of a manageable size, a census sampling approach was adopted rather than selecting a subset of employees. Accordingly, all 120 employees constituting the target population were included in the study as the statistical sample. This approach was intended to maximize representation of the organizational population and minimize sampling error associated with selecting only part of the workforce. Data were collected through self-report questionnaires distributed directly among the employees. After providing the questionnaires to eligible participants, the completed instruments were collected for data preparation and statistical analysis. The study focused specifically on the organizational context of the Directorate of Sports and Youth of Diyala Province and assessed employees' perceptions of knowledge-management processes and their individual work performance.

Data were collected using a questionnaire package comprising a demographic information form, a knowledge management questionnaire based on the model developed by Ikujiro Nonaka and Hirotaka Takeuchi, and Miller's Individual Performance Evaluation Questionnaire. The knowledge management instrument assessed knowledge management

according to four major dimensions derived from the Nonaka–Takeuchi framework: knowledge socialization, knowledge externalization, knowledge combination, and knowledge internalization. Knowledge socialization concerns the process through which tacit knowledge is shared among individuals through interaction and shared experiences; externalization refers to the articulation and conversion of tacit knowledge into explicit and communicable forms; combination reflects the integration, organization, and synthesis of different forms of explicit knowledge; and internalization concerns the incorporation of explicit knowledge into individuals' tacit knowledge through learning and practical application. Together, these dimensions provided a multidimensional assessment of knowledge-management processes within the Directorate. Individual employee performance was assessed using Miller's Individual Performance Evaluation Questionnaire, which was employed to measure the level of individual work performance among the participating employees. In addition, the demographic information form was used to collect relevant personal and occupational characteristics of the respondents for descriptive purposes.

Several procedures were undertaken to ensure the validity of the measurement instruments. First, an extensive review of relevant books, theses, dissertations, and scientific articles was conducted to clarify the conceptual definitions of the principal study variables, identify their dimensions, and determine appropriate approaches for their measurement. The instruments employed in the study were standardized questionnaires whose psychometric adequacy had been established in previous applications; nevertheless, their validity was reassessed within the context of the present investigation. Face and content validity were evaluated by a panel of nine university faculty members and experts in sport management. These experts examined the questionnaires in terms of the appropriateness, clarity, relevance, and representativeness of their items in relation to the constructs being measured and the organizational context of the study. Their evaluations were used to establish the suitability of the instruments for administration among employees of the Directorate of Sports and Youth of Diyala Province.

The internal consistency reliability of the questionnaires was assessed using Cronbach's alpha coefficient, which is widely employed for evaluating the degree to which items within a multi-item instrument consistently measure the same underlying construct. The Cronbach's alpha coefficient obtained for the Individual Performance Questionnaire was .975, while the coefficient for the Knowledge Management Questionnaire was .981. Both coefficients were substantially above the commonly accepted threshold for satisfactory internal consistency, indicating excellent reliability of the instruments in the study sample. Therefore, the measurement tools demonstrated adequate internal consistency and were considered sufficiently reliable for subsequent statistical analyses and hypothesis testing.

Following collection and screening of the questionnaires, the data were coded and analyzed using descriptive and inferential statistical procedures. At the descriptive level, means and standard deviations were calculated for the quantitative study variables to summarize their central tendency and dispersion, while frequency distributions were used to describe relevant characteristics of the participants and the distribution of the collected data. The reliability of the principal measurement instruments was evaluated using Cronbach's alpha coefficients before testing the substantive relationships proposed in the study. At the inferential level, structural equation modeling (SEM) was employed to examine the hypothesized relationship between knowledge management and individual performance and to evaluate the contribution of the dimensions of knowledge management to employees' performance. Structural equation modeling was selected because it provides an appropriate multivariate framework for simultaneously examining relationships among theoretically related

constructs and assessing the structural relationships specified in the proposed research model. Statistical analyses were performed using SPSS in conjunction with structural equation modeling procedures. The statistical significance of the estimated relationships was evaluated at the conventional significance level of $p < .05$, with lower probability values interpreted as evidence of statistically significant relationships between the investigated constructs.

Findings and Results

The study included 120 employees of the Directorate of Sports and Youth of Diyala Province, Iraq. Regarding gender, 52 participants (43.3%) were women and 65 (54.2%) were men. In terms of age, 26 participants (21.7%) were younger than 30 years, 50 (41.7%) were aged 31–40 years, 26 (21.7%) were aged 41–50 years, and 9 (7.5%) were older than 51 years. Thus, employees aged 31–40 years constituted the largest age group, whereas those older than 51 years represented the smallest group. Regarding educational attainment, 37 participants (30.8%) held a high school diploma, 7 (5.8%) held an associate degree, 54 (45.0%) held a bachelor's degree, 17 (14.2%) held a master's degree, and 1 (0.8%) held a doctoral degree. Accordingly, participants with a bachelor's degree constituted the largest educational group, whereas doctoral degree holders constituted the smallest group. With respect to work experience, 15 participants (12.5%) had less than 5 years of experience, 41 (34.2%) had 5–10 years, 23 (19.2%) had 11–15 years, 11 (9.2%) had 16–20 years, and 13 (10.8%) had more than 21 years of work experience. Employees with 5–10 years of experience therefore constituted the largest reported experience group.

Table 1

Descriptive Statistics for the Study Variables

Variable	Mean	Median	Mode	SD	Variance	Skewness	Kurtosis	Range	Minimum	Maximum
Knowledge Socialization	2.4675	2.3333	1.00	1.09068	1.190	0.466	−0.503	4.00	1.00	5.00
Knowledge Externalization	2.4188	2.2500	1.00	1.06025	1.124	0.459	−0.642	4.00	1.00	5.00
Knowledge Combination	2.6176	2.2500	2.00	1.19401	1.426	0.428	−0.922	4.00	1.00	5.00
Knowledge Internalization	2.7895	2.7500	3.00	1.02136	1.043	0.107	−0.755	3.92	1.00	4.92
Knowledge Management	2.6320	2.4808	3.00	1.03013	1.061	0.309	−0.751	3.85	1.00	4.85
Individual Performance	2.7523	2.8235	3.06	1.02072	1.042	0.182	−0.668	3.88	1.00	4.88

As shown in Table 1, the mean scores of the knowledge-management dimensions ranged from 2.4188 to 2.7895. Knowledge internalization had the highest mean among the four dimensions ($M = 2.7895$, $SD = 1.02136$), whereas knowledge externalization had the lowest mean ($M = 2.4188$, $SD = 1.06025$). The overall knowledge management score had a mean of 2.6320 ($SD = 1.03013$), while the mean individual performance score was 2.7523 ($SD = 1.02072$). The skewness coefficients ranged from 0.107 to 0.466, indicating modest positive skewness, while all kurtosis coefficients were negative, ranging from −0.503 to −0.922. These descriptive findings indicate that the distributions were not characterized by extreme skewness or kurtosis, although formal normality tests were subsequently conducted to determine the distributional properties of the variables.

The normality of the study variables was examined using both the Kolmogorov–Smirnov and Shapiro–Wilk tests. For knowledge socialization, the Kolmogorov–Smirnov statistic was .098 ($df = 119$, $p = .048$) and the Shapiro–Wilk statistic was .946 ($df = 119$, $p < .001$). For knowledge externalization, the corresponding values were .091 ($p = .022$) and .946 ($p < .001$); for knowledge combination, .164 ($p < .001$) and .933 ($p < .001$); for knowledge internalization, .060 ($p = .044$) and .977 ($p =$

.038); for overall knowledge management, .085 ($p = .042$) and .966 ($p < .001$); and for individual performance, .067 ($p < .001$) and .972 ($p = .019$), respectively. Since the significance levels of both normality tests were below .05 for all study variables, the null hypothesis of normal distribution was rejected. Consequently, a variance-based partial least squares structural equation modeling (PLS-SEM) approach using SmartPLS was considered appropriate for evaluating the measurement and structural models because this method does not require multivariate normality to the same extent as covariance-based SEM.

Figure 1

Standardized Factor Loadings of the Measurement Model for Knowledge Management and Individual Performance

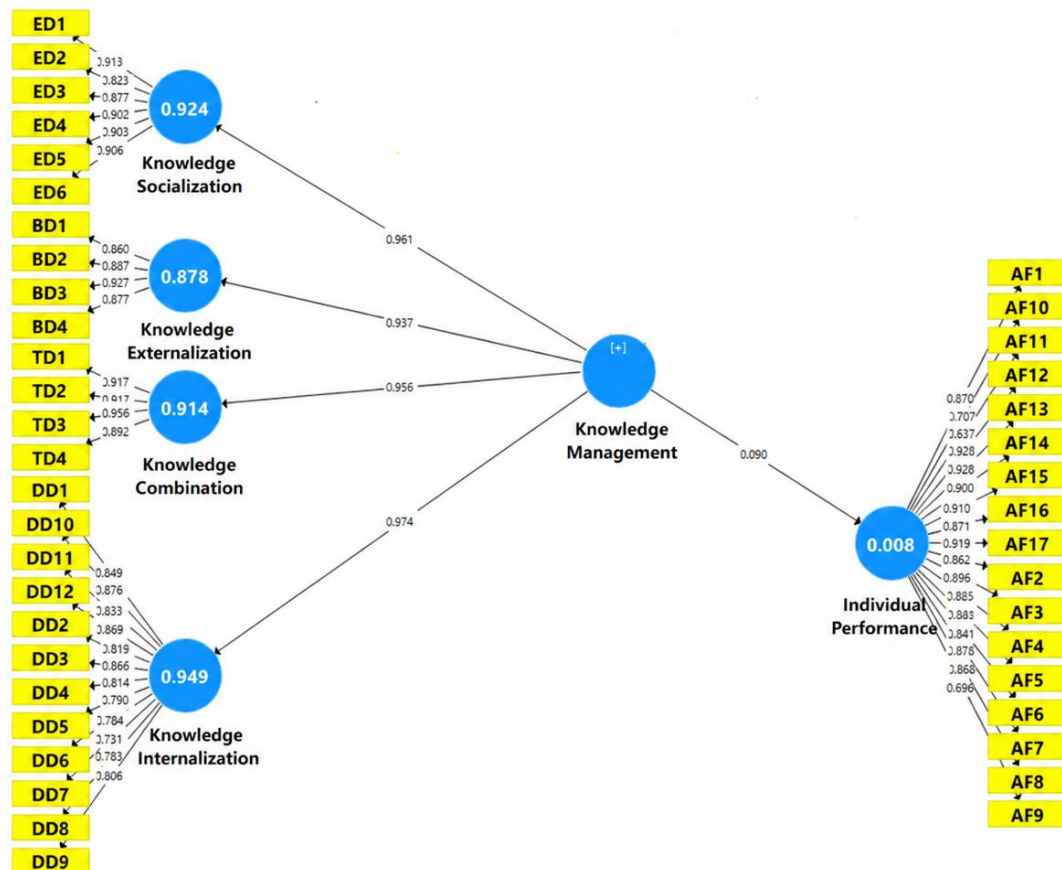


Figure 1 presents the standardized outer loadings of the observed indicators on their corresponding latent constructs. Examination of the measurement model showed that the factor loading of every retained indicator exceeded the minimum criterion of .40. Thus, none of the indicators demonstrated an unacceptably weak relationship with its respective latent construct based on this criterion. The findings therefore provided initial support for indicator reliability and confirmed that the observed items contributed adequately to the measurement of knowledge socialization, knowledge externalization, knowledge combination, knowledge internalization, overall knowledge management, and individual performance.

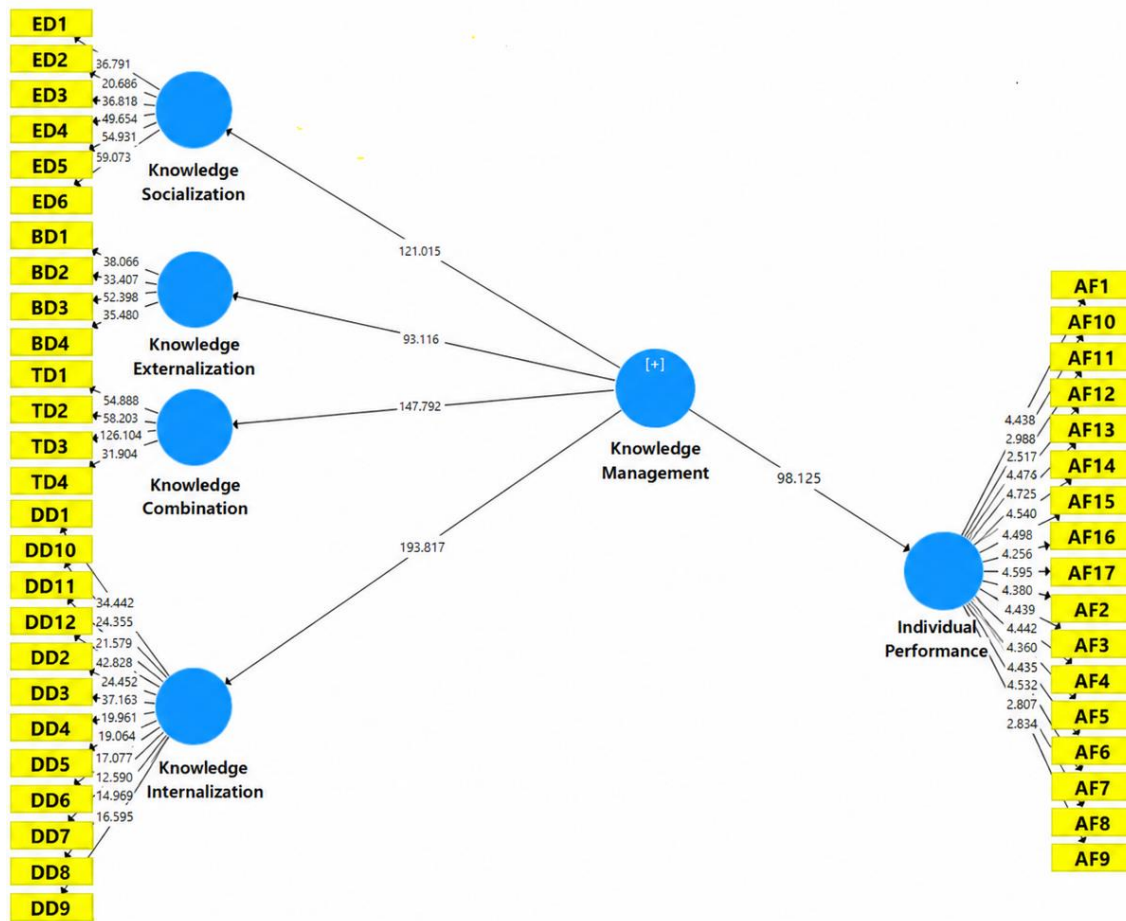
Figure 2*PLS-SEM Structural Model With Bootstrapped t Values*

Figure 2 presents the bootstrapping results for the structural model in terms of the t statistics associated with the estimated paths. The structural model showed a statistically significant positive path from knowledge management to individual performance. The reported t value for this structural relationship was 98.125, which was substantially greater than the critical value of 1.96 for a two-tailed test at the 95% confidence level. This result indicated that the structural relationship specified in the proposed model was statistically significant and supported the hypothesized positive association between knowledge management and employees' individual performance.

Table 2*Reliability and Convergent Validity of the Measurement Model*

Construct	Cronbach's α	rho_A	Composite Reliability (CR)	Average Variance Extracted (AVE)
Knowledge Socialization	.946	.949	.957	.788
Knowledge Externalization	.910	.912	.937	.788
Knowledge Combination	.940	.941	.957	.848
Knowledge Internalization	.955	.958	.961	.671
Individual Performance	.975	1.047	.976	.708
Knowledge Management	.981	.983	.983	.686

As presented in Table 2, all constructs demonstrated high internal consistency reliability. Cronbach's alpha coefficients ranged from .910 for knowledge externalization to .981 for overall knowledge management, and all values exceeded the

recommended minimum criterion of .70. Composite reliability coefficients ranged from .937 to .983 and similarly exceeded the conventional .70 threshold. The rho_A coefficients were also high, ranging from .912 to 1.047. Furthermore, the average variance extracted values ranged from .671 to .848, with all constructs exceeding the recommended AVE threshold of .50. Specifically, AVE values were .788 for knowledge socialization, .788 for knowledge externalization, .848 for knowledge combination, .671 for knowledge internalization, .708 for individual performance, and .686 for overall knowledge management. These results provide evidence of satisfactory internal consistency reliability and convergent validity for all constructs included in the measurement model. The rho_A estimate of 1.047 for individual performance was slightly above the conventional theoretical range and should therefore be interpreted cautiously; nevertheless, its Cronbach's alpha, composite reliability, and AVE values provided strong evidence of adequate measurement quality.

Table 3

Results of Hypothesis Testing for the Effect of Knowledge Management on Individual Performance

Hypothesized Path	Path Coefficient (β)	Sample Mean (M)	SD	t	p	Result
Knowledge Management $\rightarrow$ Individual Performance	.752	.100	.164	98.125	< .001	Supported

As shown in Table 3, knowledge management had a positive and statistically significant relationship with individual performance ($\beta = .752$, $t = 98.125$, $p < .001$). The positive path coefficient indicates that higher levels of knowledge management were associated with higher levels of individual employee performance. Moreover, the t statistic was considerably greater than the critical value of 1.96, and the corresponding probability value was below .001, demonstrating that the relationship was statistically significant at the 95% confidence level and also at more stringent significance levels. The magnitude of the standardized path coefficient further indicates a strong positive relationship between the two constructs. Therefore, the research hypothesis proposing a significant relationship between knowledge management and individual performance among employees of the Directorate of Sports and Youth of Diyala Province, Iraq, was supported. These findings suggest that greater implementation of knowledge-management processes, including knowledge socialization, externalization, combination, and internalization, is associated with improved individual performance among employees.

Discussion and Conclusion

Discussion

The present study examined the relationship between knowledge management and individual performance among employees of the Directorate of Sports and Youth of Diyala Province, Iraq. The findings showed that knowledge management had a positive and statistically significant relationship with individual performance, with a standardized path coefficient of $\beta = .752$, $t = 98.125$, and $p < .001$. This result indicates that higher levels of knowledge-management practices were associated with better employee performance and that knowledge management represented a substantial explanatory factor in individual work outcomes within the studied organization. The measurement model also demonstrated satisfactory psychometric properties. Cronbach's alpha coefficients were .946 for knowledge socialization, .910 for knowledge externalization, .940 for knowledge combination, .955 for knowledge internalization, .975 for individual performance, and .981 for overall knowledge management. Composite reliability values ranged from .937 to .983, while AVE values ranged from .671 to .848, indicating acceptable convergent validity. These results strengthen confidence in the observed structural relationship because the principal study constructs were measured with high internal consistency and adequate convergent

validity. The findings therefore support the central proposition that knowledge-management processes can enhance the capacity of employees to perform their assigned duties effectively and contribute more efficiently to organizational goals.

The positive relationship between knowledge management and individual performance is consistent with previous empirical research demonstrating that organizational knowledge processes are closely connected to employee productivity and effectiveness. Firdaus et al. found that knowledge management positively influences knowledge-worker productivity and that employees' individual engagement in knowledge-management activities plays an important mediating role in this relationship [5]. This finding aligns closely with the present study because both emphasize that knowledge management does not create value merely through formal systems; rather, its effectiveness depends on employees' active involvement in acquiring, sharing, organizing, and applying knowledge. When employees engage with organizational knowledge, they can reduce uncertainty, avoid repetitive errors, access prior experience, and perform tasks more efficiently. Similarly, Hajizadeh Ebrahimi et al. reported that knowledge-management components significantly affect human-resource productivity in industrial organizations [7]. Although the organizational context differs from a public sports administration, the underlying mechanism is comparable: knowledge processes enable employees to develop task-related competence, improve problem-solving, and use organizational resources more effectively. The present findings therefore extend this line of evidence to a public sports and youth organization in Iraq.

The results are also consistent with evidence from public and service-oriented organizations. Imandaar reported a significant relationship between knowledge-management components and employee productivity in firefighting and safety services [8]. Such organizations, similar to sports and youth administrations, depend on timely information exchange, accumulated experience, coordination among employees, and the application of practical knowledge. In both contexts, employees are required to respond to operational demands using not only formal instructions but also experiential understanding and organizational memory. Dehghani likewise showed that knowledge-management strategies are associated with organizational productivity in governmental organizations [9]. The convergence between these findings and the present results suggests that the performance benefits of knowledge management are not restricted to private-sector or highly technological organizations. Instead, knowledge-management capability may be particularly important in government institutions, where bureaucratic structures can otherwise slow information flow, fragment expertise, and limit cross-unit learning. In the Directorate of Sports and Youth of Diyala Province, stronger knowledge-management practices may therefore improve individual performance by facilitating access to needed information and by reducing dependence on isolated personal experience.

The strong positive path coefficient observed in this study can also be interpreted through the four knowledge-management dimensions examined in the measurement model: knowledge socialization, externalization, combination, and internalization. Knowledge socialization had high reliability and convergent validity, suggesting that interpersonal exchange of tacit knowledge was an important component of the broader knowledge-management construct. Socialization can enhance individual performance because employees learn from colleagues through observation, discussion, shared experiences, and informal interaction. Tacit knowledge, especially in administrative and service work, is often difficult to codify completely. Employees may know how to handle a specific procedural problem, communicate effectively with stakeholders, or navigate organizational constraints without that knowledge being written in formal manuals. When organizations create opportunities for social interaction, such tacit knowledge can circulate more effectively. This

interpretation is compatible with Zhang et al., who emphasized the importance of tacit knowledge-management processes for task efficiency, innovation, and organizational performance [3]. Their findings suggest that tacit knowledge becomes particularly valuable when relational mechanisms such as trust facilitate its exchange. In the present organizational setting, socialization may similarly help employees acquire practical knowledge that improves daily job performance.

Knowledge externalization also appears to be an important mechanism through which knowledge management can influence individual performance. Externalization refers to converting tacit knowledge into explicit forms that can be communicated, recorded, and shared. In public organizations, experienced employees often possess valuable procedural knowledge that may remain inaccessible to others unless it is documented. Externalization can convert this experience into guidelines, reports, instructions, or other codified formats, making it available beyond the original knowledge holder. This process is important because individual performance can be weakened when employees repeatedly solve the same problems independently or rely on informal personal contacts to obtain information. By making knowledge explicit, organizations improve continuity, transparency, and accessibility. Ye et al. demonstrated that knowledge governance can significantly influence innovative employee performance by structuring and facilitating how knowledge is managed within organizations [4]. Their findings reinforce the idea that explicit mechanisms for managing knowledge can shape how effectively employees use organizational resources and generate better work outcomes.

The knowledge-combination dimension further contributes to explaining the observed relationship. Knowledge combination involves integrating different pieces of explicit information into more coherent and useful forms. Employees frequently work with fragmented data originating from different departments, administrative records, regulations, reports, and stakeholder communications. If such information remains disconnected, employees may experience inefficiencies, inconsistent decision-making, or duplication of effort. Combination allows disparate information to be synthesized into useful organizational knowledge. This interpretation is consistent with Gao's work on big-data-driven knowledge frameworks, which showed how systematic knowledge integration can support risk prediction and performance optimization [12]. Although the technological sophistication of the setting studied by Gao differs from that of a provincial sports administration, the principle is transferable: performance improves when organizations transform dispersed information into integrated knowledge that can support decisions. Liu et al. likewise emphasized the mediating role of knowledge integration in converting organizational capabilities into sustainable performance outcomes [13]. The present findings therefore support the broader proposition that employees perform more effectively when they can access organized and integrated knowledge rather than isolated information.

Knowledge internalization may also explain why overall knowledge management was strongly related to individual performance. Internalization involves converting explicit knowledge into personal understanding, competence, and tacit expertise through application and experience. Formal documents, procedures, and training materials are valuable only when employees can translate them into practical behavior. Internalization therefore represents the point at which organizational knowledge becomes embedded in individual work practice. This mechanism is highly relevant to individual performance because employees who internalize organizational knowledge are better able to perform tasks independently, solve problems, and adapt to changing situations. The finding that knowledge internalization had a high reliability coefficient and an AVE above the recommended threshold supports its importance as a component of the overall construct. Theoretical perspectives emphasizing knowledge as an organizational performance resource are also consistent with this interpretation.

Ghorbani argued that effective knowledge management can improve organizational performance by promoting appropriate acquisition, dissemination, and application of knowledge [17]. From this perspective, knowledge only contributes fully to performance when it becomes part of employees' cognitive and behavioral repertoires.

The findings also align with studies demonstrating that organizational context shapes the effectiveness of knowledge management. Aldhaferi and Ahmad showed that transformational leadership affects organizational performance and knowledge-management capability, indicating that leadership practices can create conditions that facilitate knowledge creation and application [10]. This is relevant to the present study because knowledge management in a public sports organization is unlikely to operate independently of managerial support. Managers can either encourage knowledge sharing and learning or create barriers through excessive hierarchy, weak communication, and limited employee participation. Xinjia and Thongsiri similarly found that both the work environment and knowledge management influence employee performance [11]. Their findings suggest that knowledge-management practices are most effective when embedded in a supportive organizational environment. Thus, the strong relationship observed in the present study may reflect not only the existence of knowledge processes but also the potential organizational benefits that arise when employees perceive knowledge as accessible, shareable, and relevant to their work.

The present results can also be interpreted in relation to broader organizational sustainability and innovation. Pazhoohan et al. showed that knowledge-management infrastructure contributes to sustainable performance through organizational ambidexterity [1]. This finding implies that knowledge management allows organizations to exploit existing knowledge while simultaneously exploring new approaches. At the employee level, such a balance may improve performance because workers can rely on established routines while remaining capable of learning and adapting. Rasheed et al. demonstrated that supportive leadership and a positive organizational climate can foster employee creativity and sustainable performance outcomes [2]. Although their study focused on green creativity and supply-chain performance, its implications are relevant because knowledge sharing and employee creativity both depend on organizational climates that support participation and learning. In a sports and youth administration, employees who can exchange knowledge freely and learn from colleagues are more likely to identify effective solutions and respond constructively to organizational challenges.

The association between knowledge management and individual performance is also consistent with research connecting knowledge resources with innovation and organizational effectiveness. Zahrawi et al. found that customer knowledge management contributes to innovation capability and business performance [15]. Their findings illustrate that knowledge derived from stakeholders can become an organizational resource when systematically managed. In public sports and youth organizations, stakeholder knowledge may include information from athletes, youth groups, clubs, local communities, and administrative authorities. The capacity to collect and utilize such knowledge can improve employees' ability to respond to needs and deliver services more effectively. Tariq et al. likewise demonstrated that networking capabilities are related to knowledge-worker productivity and digital innovation [6]. This supports the interpretation that knowledge flows through relational networks and that employees' performance improves when they are connected to relevant sources of expertise. Therefore, the observed relationship in the present study may partly reflect the benefits of improved communication networks and access to collective organizational knowledge.

The measurement findings also deserve consideration. All Cronbach's alpha values exceeded .90, composite reliability coefficients were similarly high, and AVE values exceeded .50. These results indicate that the constructs were measured

consistently and that the indicators captured substantial variance in their corresponding latent variables. However, the rho_A value of 1.047 for individual performance exceeded the conventional upper range, which may indicate estimation instability or excessive item similarity. Nevertheless, Cronbach's alpha, composite reliability, and AVE for individual performance remained satisfactory, so the construct generally demonstrated acceptable measurement quality. The strong psychometric performance of the knowledge-management dimensions is consistent with the conceptual coherence of the socialization, externalization, combination, and internalization framework. At the same time, extremely high reliability values can sometimes suggest redundancy among questionnaire items, and this issue should be considered in future applications of the instrument.

The findings also contribute to the literature by addressing an underexamined context. Shadmanfar et al. demonstrated through bibliometric analysis that knowledge management has become increasingly relevant to public policymaking while identifying continued gaps in research on how knowledge processes support public-sector effectiveness [16]. The present study responds to this gap by providing evidence from a provincial public sports and youth organization in Iraq. The significance of the relationship found in this context suggests that knowledge management may be particularly valuable in public institutions where institutional memory, administrative continuity, and coordination are essential. Ghahremani et al. emphasized the role of organizational management practices in enhancing sustainability performance [14]; although their work focused on green management accounting in banking, the broader implication is that structured managerial systems can improve performance when they convert organizational information into actionable knowledge. Collectively, these studies support the present conclusion that knowledge management should be understood as an organizational capability with direct implications for employee effectiveness and institutional performance.

Overall, the present study demonstrates that knowledge management is strongly and positively associated with individual employee performance in the Directorate of Sports and Youth of Diyala Province. The findings support previous evidence across government, industrial, service, and knowledge-intensive settings and indicate that the performance benefits of knowledge management are likely to operate through multiple mechanisms, including improved access to expertise, greater knowledge sharing, codification of experience, integration of information, organizational learning, and practical application of knowledge. In this sense, knowledge management should not be treated simply as an information-storage activity. Its value lies in enabling employees to convert organizational experience and available information into more effective action. The results therefore suggest that improving knowledge socialization, externalization, combination, and internalization may provide an important pathway for strengthening individual performance within public sports organizations.

The present study has several limitations. First, the research employed a cross-sectional descriptive-correlational design, which limits the ability to establish causal relationships between knowledge management and individual performance. Although the structural model showed a strong and statistically significant relationship, the temporal direction of this relationship cannot be determined conclusively from data collected at a single point in time. Second, the study was conducted within one public organization, namely the Directorate of Sports and Youth of Diyala Province, and therefore the findings may not be directly generalizable to other provinces, other Iraqi public organizations, or private sport institutions. Third, the data were collected using self-report questionnaires, which may be affected by social desirability, common-method variance, or respondents' subjective perceptions. Fourth, although a census approach was used, the effective sample was relatively modest, and some demographic frequencies reported in the dataset did not sum perfectly to the nominal sample size,

suggesting the presence of missing responses in certain variables. Finally, some reliability coefficients were extremely high, and one rho_A estimate exceeded 1.00, indicating that future measurement assessments should examine possible item redundancy and model specification more closely.

Future studies should employ longitudinal or time-lagged research designs to clarify whether improvements in knowledge-management practices lead to subsequent improvements in individual performance over time. Experimental or intervention-based studies could also evaluate the effects of structured knowledge-sharing programs, knowledge repositories, mentoring systems, or employee learning initiatives on performance outcomes. Research should be replicated across multiple sports and youth directorates in different Iraqi provinces to improve external validity and permit comparative analyses of organizational context. Future studies could also investigate potential mediating variables, such as organizational learning, employee engagement, psychological empowerment, innovative work behavior, task efficiency, or organizational commitment, as well as moderating factors such as leadership style, organizational culture, digital capability, and work environment. The measurement model should additionally be reassessed using confirmatory procedures and discriminant-validity criteria, and objective performance indicators or supervisor-rated performance could be combined with self-report measures to reduce common-method bias.

From a practical perspective, managers of sports and youth organizations should establish systematic mechanisms for capturing, sharing, integrating, and applying organizational knowledge. Regular knowledge-sharing sessions, mentoring arrangements, cross-unit meetings, and communities of practice can support the socialization of tacit knowledge, while documentation systems, procedural manuals, after-action reports, and digital knowledge repositories can facilitate externalization and preservation of employees' experience. Managers should also encourage the integration of information across administrative units so that employees can access coherent rather than fragmented knowledge. Training and professional-development activities should focus not only on transmitting information but also on helping employees apply newly acquired knowledge to their actual duties. In addition, organizational leaders should promote a climate of trust in which employees feel comfortable sharing experience, asking questions, and learning from mistakes. These practices can reduce knowledge loss, improve organizational continuity, support faster problem-solving, and ultimately strengthen the individual performance of employees within the Directorate of Sports and Youth.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. Written consent was obtained from all participants in the study.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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