The impact of organizational commitment on knowledge management processes in project-based organizations with the mediating role of employee motivation

O impacto do comprometimento organizacional nos processos de gestão do conhecimento em organizações baseadas em projetos com o papel mediador da motivação dos funcionários

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Abstract
The purpose of this research is to investigate the effect of organizational commitment (with three dimensions of emotional commitment, continuous commitment, and normative commitment) on knowledge management processes (KMP) in project-based organizations, considering the mediating role of employee motivation. This research has an applied purpose and a descriptive and quantitative nature, which was conducted with a survey strategy. The statistical population is managers and experts of first-class construction companies in Tehran. Data collection was done through a standard questionnaire with 58 questions and hypotheses were tested with SmartPLS. The findings showed that emotional commitment and continuous commitment have a positive effect on employee motivation in project-oriented organizations, respectively, 0.56 and 0.2. Also, employee motivation has a positive effect of 0.51 on KMP
in project-oriented organizations. Therefore, employee motivation plays a mediating role in influencing the dimensions of organizational commitment to KMP. But normative commitment does not have a positive effect on employee motivation in project-oriented organizations. On the other hand, employee motivation is influenced by their commitments to the organization and will have positive effects on intellectual capital management, KM and ultimately business performance. Among research backgrounds, the effect of organizational commitment dimensions on improving KMP with the mediating role of employee motivation in project-oriented organizations has not been investigated. It is expected that the results of this research can finally provide scientific and executive solutions to improve the performance of project-oriented organizations through the improvement of these components.

**Keywords:** Knowledge Management Processes. Affective Commitment. Continuance Commitment. Normative Commitment. Employee Motivation.

**Resumo**

O objetivo desta pesquisa é investigar o efeito do comprometimento organizacional (com três dimensões de comprometimento emocional, comprometimento contínuo e comprometimento normativo) nos processos de gestão do conhecimento (KMP) em organizações baseadas em projetos, considerando o papel mediador da motivação dos funcionários. Esta pesquisa tem finalidade aplicada e natureza descritiva e quantitativa, que foi realizada com estratégia de levantamento. A população estatística é formada por gestores e especialistas de empresas de construção de primeira classe em Teerã. A coleta de dados foi feita por meio de um questionário padrão com 58 questões e as hipóteses foram testadas com o SmartPLS. Os resultados mostraram que o comprometimento emocional e o comprometimento contínuo têm um efeito positivo na motivação dos funcionários em organizações orientadas a projetos, respectivamente, 0,56 e 0,2. Além disso, a motivação dos funcionários tem um efeito positivo de 0,51 no KMP em organizações orientadas a projetos. Portanto, a motivação dos funcionários desempenha um papel mediador ao influenciar as dimensões do comprometimento organizacional com o PGC. Mas o compromisso normativo não tem um efeito positivo na motivação dos funcionários em organizações orientadas para projetos. Por outro lado, a motivação dos funcionários é influenciada pelos seus compromissos com a organização e terá efeitos positivos na gestão do capital intelectual, na GC e, em última análise, no desempenho empresarial. Entre os antecedentes da pesquisa, o efeito das dimensões do comprometimento organizacional na melhoria do KMP com o papel mediador da motivação dos funcionários em organizações orientadas a projetos não foi investigado.
Introduction

In today's world, based on competition and new management models, organizations seek to build relationships with their employees through their human resource policies and the goal of influencing employee behavior and participation in the organizational environment (Rocha and Ceretta, 2013). Organizations are affected by increased competition, performance standards, oversight, flexibility, results emphasis, customer focus, and community control (De Angelis, 2013).

Amayah (2013) argued that organizational goals are different in various organizations and are influenced by environmental influences. Therefore, knowledge management and increasing organizational commitment are considered goals that large organizations seek to attain better efficiency and productivity.

Nowadays, establishing a strong link between employees and the organization's goals through human resource policies is a key factor in the competitive environment of organizations. Meanwhile, the roles of both organizational commitment dimensions and knowledge management as important variables to establish this link that ultimately leads to the superior performance of organizations have been confirmed (Marques et al., 2019).

The latter links the organizational commitment to knowledge management and shows that all three dimensions of organizational commitment can increase the efficiency and effectiveness of knowledge management in organizations and leads to improving knowledge management processes as the ability of the organization to manage knowledge assets is self-sufficient (Ouakouak and Ouedraogo, 2019).

However, other studies emphasize the role of mediating variables in this field and believe that the three dimensions of organizational commitment in improving knowledge management processes will be further studied when the role of mediating variables in this field is examined (Martin-Perez and Martin-Cruz, 2015).
Without knowledge management in projects, knowledge assets may be lost when the project is completed, which leads to the dispersion of organizational knowledge and the loss of organizational learning (Kotnour, 2000). Nonetheless, activities such as knowledge acquisition and sharing, part of knowledge management, are often complex duties in project-based companies (Koskinen and Pihlanto, 2008). This is because project teams are often a collection of individuals with various skills that work together for a limited period and often include members who have never worked together in the past and do not expect to work together again (Dawes, 1994).

Projects are often "one-off" and almost independent, and thus, bring about discontinuities in the organization, which makes it challenging to develop consistent programs and enhance the flow of knowledge and learning between projects (DeFillippi and Arthur, 1998). Nevertheless, projects are often seen as pliable and compatible organizational forms and instruments of change in conventionally structured organizational settings. Thus, managing knowledge in project-oriented companies has vast implications for understanding learning and knowledge transfer in such organizations (Koskinen and Pihlanto, 2008).

Therefore, according to the research problem, the relatively weak state of knowledge management in organizations makes it important to examine the relationship between the dimensions of organizational commitment in improving knowledge management processes concerning the mediating role of employee motivation, especially in project-oriented organizations in which the roles of both components are performance enhancers. Failure to pay attention to this relationship in project-based organizations of the construction industry is seen as a theoretical gap in previous studies. In this regard, the current study intends to fill the research gap through theoretical framework analyses.

**Literature Review and Hypotheses**

Nowadays, knowledge management is one of the newest and key management topics. Indeed, knowledge management is a response to the increasing changes in the environment around current institutions. Thus, changes in management practices are necessary and inevitable. A look at the research conducted in organizational knowledge management shows that human aspects are the most important concern for implementing knowledge management in organizations.

Many organizations have failed to implement knowledge management effectively because they have not introduced the concepts of knowledge management to employees in a
desirable way. If the above is accepted, the question arises of how commitment to knowledge sharing and employee motivation ultimately leads to improving knowledge management.

Organizational commitment is defined as an attitude concerning employees' loyalty to the organization and a continuous process resulting from individuals' participation in organizational decisions, resulting in employees' attention to the organization and its success (Febrina, 2020). Allen and Meyer (1990) described three types of commitment for employees of organizations. Affective commitment relates to employees' emotional attachment to, identification with, and involvement in the organization. Continuance commitment refers to an obligation based on the costs employees associate with leaving the organization. Finally, normative commitment relates to employees' feelings of responsibility to remain with the organization.

Some researchers have separately examined the relationship between organizational commitment, knowledge management, and motivation variables and their impact on each other, which are mentioned in the following.

A survey of a heterogeneous sample of Australian full-time knowledge employees in a knowledge-based Chinese organization studied knowledge workers, Motivation to share knowledge, and self-reported knowledge-sharing behaviors (Gagné et al., 2019). The results, widely replicated in samples, showed that cognitive job demand and job independence were related to future reports of knowledge-sharing frequency and usefulness through autonomous Motivation to share knowledge. Unexpectedly, task interdependence was positively correlated with the three forms of knowledge hiding (evasive and rationalized hiding and playing dumb) through external rules for knowledge sharing.

Marques et al. (2019) investigated organizational commitment and its impact on knowledge management in public sector organizations. Exploratory analysis using structural equation modeling showed a significant relationship between organizational commitment and knowledge transfer and, consequently, the maturity of knowledge management.

In another study, Huang and Lai (2014) examined the impact of personal information management dimensions (information proactiveness, transparency, and formality) on users' commitment to knowledge systems and, ultimately, their intention to share knowledge. The statistical population could be employees who used information systems based on knowledge management to organize their information and processes. The results of a survey of 78 accounting professionals in their study showed that information recognition has the most significant impact on the commitment to the knowledge management system of users.
compared to the efficiency and transparency of information. Thus, their study helped examine knowledge management by combining and emphasizing the "person" power.

Razzaq et al. (2019) collected data from 341 knowledge employees of the public sector health department where the knowledge management unit initiative had been taken and then analyzed them using the structural equation modeling. Their findings showed that organizational commitment partially mediates the relationship between knowledge management practices and knowledge-work performance.

The impact of organizational commitment and trust on knowledge sharing and utilization was investigated by Ouakouak and Ouedraogo (2019). They conducted a quantitative study among 307 workers working at Canadian organizations. The outcomes uncovered that affective commitment and professional trust positively affect information sharing and information utilization, though individual trust and continuance commitment do not. In addition, they concluded that business ethics moderates the relationship between knowledge sharing and knowledge utilization.

The findings of Mohd Rasdi and Tangaraja (2020) study, which was extracted from 231 administrators of various managerial grades, demonstrated that knowledge-sharing behavior was predictable by intrinsic motivational factors, time availability, and organizational socialization. According to the results, affective commitment to organizations is the key moderate factor that motivates managers to participate in knowledge-sharing behavior.

Khoa and Letters (2021) conducted a study to measure the influence of the information administration handle and individuals' commitment within the digital marketing industry. The research findings displayed those dimensions of the knowledge management process, including knowledge application, knowledge conversion, knowledge acquisition, and knowledge protection, positively affect the employee's commitment. Further, their research showed that knowledge acquisition and conversion had the lowest, whereas knowledge application had the strongest influence on employee commitment.

A study based on cognitive dissonance and commitment theories. Olfat et al. (2020) discovered that employees with high organizational commitment take more privileges of enterprise social networks because of work motivations. They examined 361 employees from seven Iranian organizations which used typical enterprise social network software packages. The outcomes confirmed that the employees' organizational commitment positively affects their work-related utilization of enterprise social networks and through the mediating roles of their organizational values.
Another research investigated the relationships between knowledge management, transformational leadership, organizational performance, job satisfaction, organizational learning, and knowledge-creation processes (Kılıç and Uluda, 2021). The discoveries of their study showed that transformational leadership positively affects knowledge and variables related to knowledge in the public sector. In other words, transformational leadership helps to grow knowledge in organizations. Additionally, transformational leadership enhances job satisfaction and organizational performance while providing individual development. Moreover, they found out organizational learning, job satisfaction, and knowledge management mediate the impact of transformational leadership on organizational performance.

Nguyen et al. (2020) examined the influence of organizational commitment on employees' Motivation through two mediating variables, including opportunistic behavior and knowledge sharing in Vietnamese companies. The outcomes demonstrated that normative commitment, directly and indirectly, affects employees' Motivation through the two mentioned mediating factors. Meanwhile, affective commitment only indirectly impacts employees' Motivation in companies through these mediating factors. However, Continuance commitment only indirectly affects employees' Motivation through opportunistic behavior. Finally, the authors found that opportunistic behavior negatively affects employees' knowledge sharing.

Gopinath (2020) examined the impact of organizational commitment on knowledge management. The researcher used a proportionate random sampling technique and structural equation modeling. According to the findings, employees will share knowledge, especially the knowledge management practices within the organization, regarding the level of their organizational commitment, which will contribute to the development of employees and the organization.

In this regard and according to the previous studies, specifically (Bontis and Fitz-enz, 2002; Marques et al., 2019; Rocha et al., 2008), a conceptual model to examine the impact of organizational commitment on knowledge management processes with the mediating role of employee motivation was proposed, as shown in Figure 1. The research hypotheses of the proposed model considering the three dimensions of employees' organizational commitment are presented as follows:

- **H1.** Affective commitment has a positive impact on employee motivation.
- **H2.** Continuance commitment has a positive impact on employee motivation.
- **H3.** Normative commitment has a positive impact on employee motivation.
**H4.** Employee motivation has a positive impact on the knowledge management processes.

**H5.** Organizational commitment positively impacts the knowledge management processes, considering the mediating role of employee motivation.

![Diagram](image)

**Figure 1. The research conceptual model.**
Source: Authors

### 2.1 Theoretical Framework and Development of Hypotheses

*Organizational commitment and motivation.* Human resources are the most fundamental component and asset in the activities of an organization, whether governmental or non-governmental. Indeed, humans are the essential capital organizations need to reach their objectives since their time, talents, and skills can be used optimally for the organization's and individuals' interests. On the contrary, if talented human resources do not support organizations' resources, they will not conclude optimal results (Hagen et al., 2003).

The manager must be able to motivate the employees. Organizations want to use the maximum potential of their human resources to stay competitive and survive. Great organizations are built based on the intrinsic value of human resources and their Motivation and commitment. Effective Motivation is highly needed at different levels of the organization to satisfy and commit employees to their jobs. Hence, motivated and committed employees with high job involvement are considered important assets for the organization (Tella et al., 2007).

Motivation is an essential element in behavior. Researchers believe that Motivation is very important in achieving the growth of any organization (George and Sabapathy, 2011).
Work motivation is an incentive an organization or company provides to increase employee morale. Findings show that the high Motivation of employees improves their performance because they feel supported by the organization (Frastika and Franksiska, 2021).

A study conducted by Choong et al. (2011) stated that work motivation has a significant positive relationship with organizational commitment. By increasing work motivation, organizational commitment will also increase. Another research Dragos (2014) proved that Motivation has a strong relationship with individual performance. In fact, the higher the employee's Motivation, the more the employee's performance will increase.

In particular, intrinsic Motivation is significantly correlated with different dimensions of organizational commitment, such as affective, continuance, and normative commitments. Besides, intrinsic Motivation significantly predicts organizational commitment. Therefore, to promote organizational performance, motivated and committed employees are needed (Manalo, 2020).

Creating a committed and motivated workforce is the main goal and key to success in a competitive environment. Organizational commitment is one of the most important work attitudes in the study of management and organizational behavior and is one of the subjects that has been widely researched. Organizational commitment is defined as a person's belief in the organization or company and the individual's participation in the organization's activities or interests with full responsibility and loyalty to the organization (Frastika and Franksiska, 2021).

Work motivation and organizational commitment are factors within a person that lead their behavior to achieve specific goals. Ahluwalia and Preet (2017) investigated these two variables in their research. The purpose of their study was to determine whether work motivation has a positive effect on organizational commitment. The findings showed strong and positive effects for increasing commitment in the organization.

Meyer and Allen (1997) defined organizational commitment as a psychological state of employees' feelings about their organizational participation and the desire to stay and continue working in the organization. It is divided into three components of affective commitment, continuance commitment, and normative commitment. Therefore, organizational commitment plays a fundamental role in organizations and improves individual and organizational performance. In addition, Choong et al. (2011) showed that work motivation has a positive and mutual relationship with organizational commitment. Based on this, the following hypotheses can be suggested:

**H1.** Affective commitment has a positive impact on employee motivation.
**H2.** Continuance commitment has a positive impact on employee motivation.

**H3.** Normative commitment has a positive impact on employee motivation.

*Motivation and knowledge management processes.* The significance of knowledge management consolidates the competitiveness of organizations that survive in multi-dimensional situations. The knowledge management process in the organization is the organization's way of increasing knowledge, skills, abilities and the organization's way of increasing its knowledge-based existence (Andriany et al., 2022).

Knowledge-sharing behaviors increase the desire to achieve group and individual goals (Lin, 2007). Conversely, when there is no knowledge sharing in a team, members do not have access to the cognitive resources of their colleagues, thereby weakening their ability to collaborate and their potential for creativity (Zhang, 2011). As a result, many authors believe that knowledge sharing contributes to better group performance (Ballesteros-Rodríguez et al., 2022).

The knowledge-sharing literature always points to the importance of individuals' motivations in deciding whether to share or hide knowledge (Nguyen et al., 2020). The challenge of knowledge-sharing is encouraging an individual's insight to engage in knowledge-sharing behavior or Motivation (Omar et al., 2021).

Motivation encourages employees to share knowledge outside the workplace. If the organization provides a working environment with an open knowledge-sharing atmosphere, employees will have a positive effect in creating attachment and Motivation for the work process (Burgess, 2005). Besides, the high level of knowledge sharing in companies promotes employees' professional knowledge and work experience, helping them work more effectively and creating trust and Motivation (Nguyen et al., 2020).

On the other hand, Cruz et al. (2009) claimed that if an organization provides situations to motivate its employees intrinsically, they would be willing to transfer their knowledge and accept and get their colleagues' knowledge.

Knowledge sharing within a group leads to a feeling of collaboration and mutual relationship that encourages individuals to share knowledge, thereby increasing group performance. As a result, members' knowledge sharing is related to group rewards (Ballesteros-Rodríguez et al., 2022). In this way, the following hypothesis can also be developed:

**H4.** Employee motivation has a positive impact on the knowledge management processes.
Organizational commitment and motivation and knowledge management processes.

Organizational commitment and knowledge management have been studied as independent and unrelated fields. Previous studies focused on the effects and relationships established with other variables related to these two variables. Knowledge management literature emphasizes the technological aspects or specific processes of knowledge management, such as sharing and distribution, and describes fundamental and challenging links between them.

In previous research, organizational commitment and knowledge management have been studied as independent fields. Also, the mediating role of employee motivation has not been considered in any research as a mediating factor between the dimensions of organizational commitment and the improvement of knowledge management processes. According to research by Thompson and Heron (2005), managers have recognized the importance of commitment. There is a research gap in this field that has been addressed in this study.

In addition, the practical necessity of this research is because it is expected that the study results can ultimately provide scientific and executive solutions for the studied project-based organizations. In fact, due to the temporary nature, project team members are transferred to another in a project-oriented organization, so the acquired information and knowledge go out of the organization. As a result, coordination between processes in these organizations, provided through learning between projects and learning within projects, will encounter problems. This shows the role and importance of knowledge management processes in project-oriented organizations, which improves the organization's performance.

First of all, organizations must gain the commitment of their employees and retain them. The fact that knowledge has become one of the most significant elements of competition has led businesses to use their employees' knowledge most effectively and efficiently. In addition, business organizations are trying to minimize losses caused by employee turnover. If employees' commitment can be motivated, knowledge will be transformed into organizational knowledge and exchange knowledge among employees (Gopinath, 2020).

Other researchers emphasize that collaborative behavior and knowledge sharing are positive results of commitment. Organizational commitment impacts the level of employees' knowledge sharing with colleagues. Highly committed employees to the organization, whether through affective, continuance, or normative commitment, desire to contribute to the organization's success. They desire to share their experiences and practical knowledge with other employees and establish good support in the work processes (Nguyen et al., 2020).
Previous research has shown that autonomous Motivation promotes knowledge sharing. For instance, individuals are more likely to exchange information when they enjoy sharing with other employees or when they are mastery-oriented (related to intrinsic Motivation) than when they do it for rewards or performance-oriented (Gagné et al., 2019).

Malhotra and Galleta (2003) claimed that Motivation and commitment are important in successfully implementing knowledge management systems. Thus, the development of organizational knowledge culture should be characterized by a high level of commitment and Motivation. Omar et al. (2021) stated that the Motivation and commitment of professional employees of business service organizations' perceptions are positively related to good intentions toward knowledge sharing. In addition, Roopaa and Gopinath (2021) investigated the relationship between organizational commitment to knowledge management processes (creation, acquisition, storage, sharing, and use), considering the mediating role of organizational performance. They showed that knowledge management processes can effectively improve organizational performance. In this way, the following hypothesis can be developed:

**H5.** Organizational commitment positively impacts the knowledge management processes, considering the mediating role of employee motivation.

**Methodology**

This research is applied in terms of purpose. It has practical and executive results for all managers and experts of project-based companies to understand organizational commitment's impact on knowledge management processes. Furthermore, this study has been done using by descriptive survey method and has a quantitative nature.

The statistical population of the research was managers and experts of first-class construction companies in Tehran, numbering 1397 people. According to Charles Cochran's formula, with a 95% confidence level, the sample size for the statistical population of 1397 was equal to 530.

The data collection tool was a standard online questionnaire composed of 58 questions that asked questions about research variables from valid research cited (Chen and Fong, 2015; Marques et al., 2019).

The necessary data for a study can be collected from library and field methods such as questionnaires and interviews. For this purpose, the library method was used for the literature
review and theoretical foundations in the presented research. Nevertheless, due to the Covid-19 pandemic, the field studies were only conducted using the online questionnaire method.

Face and content validity were used to measure the validity of the questionnaire in this study. Because of the standard nature of the questionnaire, the constructional validity was reliable. Still, the formal and content validity of the questionnaire should have been examined in terms of matching the questions with the subject and concepts. Therefore, the questionnaire was examined by several experienced professors and experts before the final distribution among the statistical sample. Examining that the elements could measure the concept in this study, the objections to the questions were identified from both adequacy and appropriateness aspects. Hence, after removing them from the questionnaire, the face and content validity of the questions were approved by the professors and experts.

Descriptive statistics were used to obtain each questionnaire question's mean and standard deviation. Afterward, Cronbach's alpha coefficient value for the whole questionnaire was determined through SPSS 19.0 software.

The results of Cronbach's alpha coefficient of the entire questionnaire and Cronbach's alpha coefficient related to all the variables of the conceptual research model are shown in Tables 1 and 2, respectively.

<table>
<thead>
<tr>
<th>All questionnaire items</th>
<th>Cronbach's alpha coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>58</td>
<td>0.928</td>
</tr>
</tbody>
</table>

Table 1. Cronbach's Alpha Coefficient of the whole questionnaire.
Source: Authors

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach's alpha coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective commitment</td>
<td>0.935</td>
</tr>
<tr>
<td>Continuance commitment</td>
<td>0.962</td>
</tr>
<tr>
<td>Normative commitment</td>
<td>0.930</td>
</tr>
<tr>
<td>Employee motivation</td>
<td>0.903</td>
</tr>
<tr>
<td>Knowledge management processes</td>
<td>0.914</td>
</tr>
</tbody>
</table>

Table 2. Cronbach's alpha coefficient of the variables.
Source: Authors

As shown in Tables 1 and 2, Cronbach's alpha coefficients of the questionnaire and all variables were greater than 0.7, indicating good reliability.
In this study, the normality or abnormality of data distribution was investigated by the Kolmogorov-Smirnov test, which tests the goodness of fit of a given set of data to a theoretical distribution. Moreover, the frequency distribution of given answers to each question and bar graphs in the five Likert scales were obtained using SPSS software.

Data Analysis and Results

This section discusses the analyses of the collected data from the questionnaires and their results in descriptive and inferential statistics. The first part used descriptive statistics to measure and analyze the collected data to extract averages and standard deviations using SPSS software. In the inferential statistics part, due to the non-normality of the variables, structural equation modeling with SmartPLS software was used to test the hypotheses.

The inferential statistics section used structural equation modeling to test the hypotheses. Due to the non-normality of variables, stages of structural equation modeling, including model expression, model estimation, hypothesis testing, model modification, and model interpretation, were performed with SmartPLS software.

4.1 Descriptive Statistics

The online questionnaire used in this study was based on the Google Form application, and it was sent to the organizations' managers and experts; of the 530 individuals that received the online questionnaire, 207 completed and returned the survey. Regarding eliminating 21 invalid questionnaires, 186 valid questionnaires, which represented a response rate of 35%, were considered for the final data analysis.

The demographic characteristics examined in this research were gender, age group, education level, job position, and work experience of the individuals. Table 3 provides the respondents' demographic information and frequency in each category. Concerning the gender indicator, the respondents were primarily male. As can be seen, the most frequent age groups were 25 to 44 years (36%). Moreover, 78.5% of the participants were masters, and 14.5% had a doctorate. According to Table 3, almost half of the survey respondents were experts, and 23% were project managers. Also, 38.7% of the individuals had 6 to 10 years of work experience, while only 8% of participants had more than 15 years of work experience.
The impact of organizational commitment on knowledge management processes in project-based organizations with the mediating role of employee motivation

<table>
<thead>
<tr>
<th>Demographic characteristic</th>
<th>Category</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>132</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>54</td>
<td>29</td>
</tr>
<tr>
<td>Age group (year)</td>
<td>25-34</td>
<td>66</td>
<td>35.5</td>
</tr>
<tr>
<td></td>
<td>35-44</td>
<td>67</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>45-54</td>
<td>46</td>
<td>24.7</td>
</tr>
<tr>
<td></td>
<td>55 and up</td>
<td>7</td>
<td>3.8</td>
</tr>
<tr>
<td>Education level</td>
<td>Bachelor</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Master</td>
<td>146</td>
<td>78.5</td>
</tr>
<tr>
<td></td>
<td>Doctorate</td>
<td>27</td>
<td>14.5</td>
</tr>
<tr>
<td>Job position</td>
<td>Expert</td>
<td>89</td>
<td>47.9</td>
</tr>
<tr>
<td></td>
<td>MA</td>
<td>22</td>
<td>11.8</td>
</tr>
<tr>
<td></td>
<td>Senior Manager</td>
<td>32</td>
<td>17.2</td>
</tr>
<tr>
<td></td>
<td>Project Manager</td>
<td>43</td>
<td>23.1</td>
</tr>
<tr>
<td>Work experience (year)</td>
<td>0-5</td>
<td>53</td>
<td>28.5</td>
</tr>
<tr>
<td></td>
<td>6-10</td>
<td>72</td>
<td>38.7</td>
</tr>
<tr>
<td></td>
<td>11-15</td>
<td>46</td>
<td>24.7</td>
</tr>
<tr>
<td></td>
<td>Over 15</td>
<td>15</td>
<td>8.1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>186</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 3. Summary of respondents’ demographic characteristics.
Source: Authors

Measures of sample adequacy. The Kaiser–Meyer–Olkin (KMO) data adequacy test and Bartlett's Test of Sphericity were used to check the suitability of The KMO measures sampling adequacy for each variable in the model. In the case of the variables chosen for this study, the value of the KMO data adequacy test was 0.701, which was above the threshold value of 0.7. Bartlett's Test of Sphericity should be significant (p<0.05) for factor analysis to be suitable. As shown in Table 4, Bartlett's Test of Sphericity value was found significant at 0.000.

<table>
<thead>
<tr>
<th>Test</th>
<th>Statistics</th>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser-Meyer-Ulkin (KMO)</td>
<td>Measurement of sample adequacy</td>
<td>0.701</td>
</tr>
<tr>
<td>Bartlett's Test of Sphericity</td>
<td>Chi-square approximation</td>
<td>457.086</td>
</tr>
</tbody>
</table>
In this part, the Kolmogorov-Smirnov test was used to test the hypothesis of the normality of research data. The data distribution would be normal if the significance level of the variables were greater than the test level (0.05). According to the presented values in Table 5, the significance level for all variables was less than 0.05, which means abnormal data distribution.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Significance level</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective commitment</td>
<td>0.000</td>
<td>Abnormal</td>
</tr>
<tr>
<td>Continuance commitment</td>
<td>0.000</td>
<td>Abnormal</td>
</tr>
<tr>
<td>Normative commitment</td>
<td>0.000</td>
<td>Abnormal</td>
</tr>
<tr>
<td>Employee motivation</td>
<td>0.000</td>
<td>Abnormal</td>
</tr>
<tr>
<td>Knowledge management processes</td>
<td>0.000</td>
<td>Abnormal</td>
</tr>
</tbody>
</table>

Table 5. The Kolmogorov-Smirnov test results.
Source: Authors

4.2 Inferential Statistics

Since there are several independent variables in the research, their effect should be investigated on the dependent variable; therefore, it is necessary to use the structural equation model using PLS software.

In this regard, composite reliability (CR) and Cronbach's alpha (α) were used to measure reliability, and average variance extracted (AVE) and Fornell-Larcker tests were used to measure convergent and divergent validity, respectively.

Reliability and validity of constructs. The validity and reliability criteria of the research model, including average variance extracted (AVE) as a convergent validity test as well as composite reliability (CR) and Cronbach's alpha (α) as index reliability tests, are given in Table 6.

The AVE index should be greater than 0.5 for acceptable reliability (Chin, 1998). Acceptable reliability is met when the CR index is greater than 0.70. Similarly, Cronbach's α for values greater than 0.70 are satisfactory (Nunnally, 1978). Note that the letters (A to E) in
the second column correspond to the encoding of variables in the software. The results show that all variables have a criterion limit.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Code</th>
<th>AVE</th>
<th>CR</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective commitment</td>
<td>A</td>
<td>0.567</td>
<td>0.898</td>
<td>0.751</td>
</tr>
<tr>
<td>Continuance commitment</td>
<td>B</td>
<td>0.566</td>
<td>0.941</td>
<td>0.705</td>
</tr>
<tr>
<td>Normative commitment</td>
<td>C</td>
<td>0.548</td>
<td>0.778</td>
<td>0.772</td>
</tr>
<tr>
<td>Employee motivation</td>
<td>D</td>
<td>0.530</td>
<td>0.944</td>
<td>0.936</td>
</tr>
<tr>
<td>Knowledge management processes</td>
<td>E</td>
<td>0.585</td>
<td>0.959</td>
<td>0.955</td>
</tr>
</tbody>
</table>

**Table 6. Convergent validity and composite reliability of the measurement model.**
Source: Authors

The Fornell-Larcker criterion was used to calculate divergent validity in partial least squares structural equations. Divergent validity is acceptable when the amount for each structural equation is greater than the shared variance between that structural equation and other structural equations in the model. **Table 7** shows the results of the Fornell-Locker test as a divergent validity test. According to the results, the mean of the extracted variance of variables is less than 0.9.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Affective commitment</th>
<th>Continuance commitment</th>
<th>Normative commitment</th>
<th>Employee motivation</th>
<th>Knowledge management processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective commitment</td>
<td>0.753</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuance commitment</td>
<td>0.694</td>
<td>0.515</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normative commitment</td>
<td>0.806</td>
<td>0.644</td>
<td>0.740</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee motivation</td>
<td>0.706</td>
<td>0.592</td>
<td>0.589</td>
<td>0.728</td>
<td></td>
</tr>
<tr>
<td>Knowledge management processes</td>
<td>0.666</td>
<td>0.670</td>
<td>0.696</td>
<td>0.757</td>
<td>0.696</td>
</tr>
</tbody>
</table>

**Table 7. Fornell-Locker test.**
Source: Authors

In the following, the structural model was examined, and the research model was fitted. The determination coefficient ($R^2$) and good of fitness (GoF) were used to verify the fit quality. $R^2$ value, on a scale of 0 to 1, close to 0.67 is considered favorable, while close to 0.33 and 0.19 are considered normal and weak, respectively (Chin, 1998).

As can be observed from **Table 8**, $R^2$ values are favorable for all dependent variables of the research. One can infer that 0.519 percent of the employee motivation variable and
0.698 percent of the knowledge management process variable are affected by the independent variables of the research model.

<table>
<thead>
<tr>
<th>Variable</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee motivation</td>
<td>0.519</td>
</tr>
<tr>
<td>Knowledge management processes</td>
<td>0.698</td>
</tr>
</tbody>
</table>

**Table 8. The determination coefficient of the research model.**
Source: Authors

The conceptual model extracts the overall goodness of fit index through a standardized root-mean-square residual and measures the difference between predicted and observed correlations.

The presented study obtained a value of 0.549 for the GoF index, greater than 0.3 as a threshold value (Wetzels et al., 2009), indicating no difference between the predicted and observed correlations. Accordingly, it is concluded that the value of this index is suitable, and the research model has a good overall fit (Figure 2).

$$GOF = \sqrt{\text{average Communalities}(AVE) \times R^2} = 0.549$$

**Test of hypotheses in the conceptual research model.** The results related to the approval or disapproval of each research hypotheses are also shown in **Table 9**.

<table>
<thead>
<tr>
<th>NO.</th>
<th>Description of the hypothesis</th>
<th>t-value</th>
<th>Path coefficient ($\beta$)</th>
<th>Significance statistics (p-value)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Affective commitment has a positive impact on employee motivation.</td>
<td>6.802</td>
<td>0.563</td>
<td>0.000</td>
<td>Confirmed</td>
</tr>
<tr>
<td>2</td>
<td>Continuance commitment has a positive impact on employee motivation.</td>
<td>3.081</td>
<td>0.195</td>
<td>0.002</td>
<td>Confirmed</td>
</tr>
<tr>
<td>3</td>
<td>Normative commitment has a positive impact on employee motivation.</td>
<td>0.106</td>
<td>0.010</td>
<td>0.915</td>
<td>Unconfirmed</td>
</tr>
<tr>
<td>4</td>
<td>Employee motivation has a positive impact on the knowledge management processes.</td>
<td>7.147</td>
<td>0.508</td>
<td>0.000</td>
<td>Confirmed</td>
</tr>
</tbody>
</table>

**Table 9. The structural model results.**
Source: Authors

Based on the findings:

1) The confirmatory factor analysis (t-value) value for the first hypothesis is greater than 1.96, and the test’s significance is less than 0.05. So with a 95% confidence level, affective commitment positively affects employee motivation in project-based organizations by 0.563.
2) The confirmatory factor analysis (t-value) value presented for the second hypothesis is greater than 1.96, and the test's significance is less than 0.05. Therefore, with a 95% confidence level, continuance commitment positively affects employee motivation in project-based organizations by 0.195.

3) The confirmatory factor analysis (t-value) value presented for the third hypothesis is less than 1.96, and the test's significance value is more than 0.05. Therefore, with a 95% confidence level, normative commitment does not positively affect employee motivation in project-based organizations.

4) The confirmatory factor analysis (t-value) value presented for the fourth hypothesis is greater than 1.96, and the test's significance value is less than 0.05. Therefore, with a 95% confidence level of employee motivation, knowledge management processes in project-based organizations have a positive effect of 0.508.

According to the results, hypotheses 1, 2, and 4 were confirmed. However, the third hypothesis, "Normative commitment has a positive effect on employee motivation in project-based organizations," was unconfirmed. One of the reasons may be that the employees of the studied organizations do not sense a moral obligation to stay engaged in their organization. This leads to the fact that they will not have the necessary and sufficient commitment to share the knowledge that will be used in future projects of the organization.

Reasons can also be listed to justify the lack of normative commitment among employees in these organizations. One could be the incentive and justification policies of the employees, especially low-ranking ones, which may not be well defined and implemented by the senior officials and managers of the organization. Another reason that may exist is that sometimes the low productivity of the construction industry results in periods of employee attrition in organizations, which is thought to be overcome by changing workplaces and rotating between different organizations. At the same time, this issue would reduce the employees' sense of loyalty and respect toward the organization.

*Test results of hypotheses with mediating variable.* Since the fifth hypothesis of this research has been proposed in mediation mode, the method of analysis of mediator hypotheses has been analyzed based on Baron and Kenny's method, which tests hypotheses with mediator variables in four steps. Based on this test, the fifth hypothesis with the mediating variable includes the following steps:

- **Step 1:** The correlation between the independent and dependent variables (without the mediator variable) was calculated. Hypotheses 1, 2, and 3 were confirmed based on the extracted results.
Step 2: The correlation between the independent and mediator variables was calculated. According to the results, hypothesis 4 was also confirmed.

Step 3: The correlation between the mediating and dependent variables was calculated. Based on Baron and Kenny's method and according to the confirmation of the dependent variable, one can conclude that hypothesis 5 is confirmed with the role of the mediator variable.

Step 4: Based on the results of the previous steps, the approval or disapproval of the mediator relationship in the model is judged. Because the impact of organizational commitment dimensions on knowledge management processes has been confirmed, the impact of employee motivation on knowledge management processes has also been confirmed. Therefore, employee motivation mediates organizational commitment dimensions' impact on knowledge management processes in project-based organizations. Finally, the test of hypothesis 5 is also confirmed.

Figure 2 summarizes the results of the analyses conducted by PLS software to test the structural model. In particular, the standardized coefficient ($\beta$), the significance level (t-value), and the value of the $R^2$ is shown.

**Discussion and Conclusion**

The current research, which was conducted to explain the impact of dimensions of organizational commitment on knowledge management processes among employees of
The impact of organizational commitment on knowledge management processes in project-based organizations with the mediating role of employee motivation

Project-based organizations in the construction industry, generally showed that the organizational commitment of employees to knowledge sharing has an impact on knowledge management processes with the mediating role of employee motivation (the fifth research hypothesis). This finding is consistent with the results of previous studies (Gopinath, 2020; Huang and Lai, 2014; Marques et al., 2020; Ouakouak and Ouedraogo, 2019; Razzaq et al., 2019).

The findings from the confirmation of the fourth hypothesis, titled "Motivating employees to share knowledge has a positive and significant effect on knowledge management processes," also show a good convergence with the results of previous research (Gagné et al., 2019; Martin-Perez and Martin-Cruz, 2015; Nguyen et al., 2020).

According to the results of the hypotheses tests, it is recommended to the managers of the project-based organizations in this study to match the type of job and tasks assigned to employees with their abilities and skills. For this purpose, to support the organization's employees, personality-occupational analyses of the individuals should be done, and support programs should be planned according to the different job categories of the employees. The organization's human resources department should be committed to the long-term development of employees, and they should be allowed to grow and increase their knowledge. Also, to increase employees' job commitment, organizations should plan to improve their professional skills and career advancement. In this regard, they should pay sufficient attention to the quantitative and qualitative improvement of formal and informal training of employees, individuals' motivations and spiritual needs, and the improvement of formal and informal communication systems in the organization.

Improving the job motivation of employees can be implemented by accurately identifying the job motivations of employees and strengthening them within the organization, eliminating the factors of employees' job dissatisfaction, establishing reasonable and logical communication between officials and subordinate employees, valuing the efforts and positive activities of employees, strengthening the morale of employees by solving their personal or organizational problems, applying appropriate incentives to employees with Motivation for influencing other people, ensuring the job security of employees, dealing with the issues and concerns of employees' livelihood and empowering employees by improving their skills.

The present research findings can be used in both industrial and theoretical fields. In the industrial area, managers and senior leaders of organizations can improve the factors affecting their employees' organizational commitment to enhance the status of knowledge management processes in organizations and value human resources issues as much as
technical issues and recording and reporting of information and documents. In addition, academic researchers and experts in research and development departments of organizations can improve the status of knowledge management processes by studying the influencing factors on various dimensions of organizational commitment or by conducting qualitative research and the influence of other mediating variables.

As a result, it is suggested that other variables, such as organizational structure, communication skills of employees, management styles, willingness to innovate in organizations, and intellectual capital, as a mediator in the relationship between the three dimensions of organizational commitment and knowledge management processes, should be investigated in future research.

**Limitations and Directions for Future Research**

Among the limitations of the current research, it can be mentioned that the study was conducted in the construction industry field, which can only be generalized to the project-based organizations of this sector. Therefore, separate investigations are needed in other industries due to their unique nature. Hence, researchers can conduct the presented research variables in different service and production organizations to reach new findings.

On the other hand, the findings are limited to the project-based organizations of the construction industry in Iran. Nonetheless, due to differences in technical, economic, and social conditions worldwide, whether the results of this research can be generalized to other countries is unknown. Thus, future studies can examine the research model for other collected data from different countries and regions.

Finally, due to the Covid-19 pandemic, only the online questionnaire method was used for data collection in this research. However, other data collection methods, such as interviews, can verify and develop the findings.

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The impact of organizational commitment on knowledge management processes in project-based organizations with the mediating role of employee motivation


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