



Predicting sustainable competitive advantage with emphasis on the mediating role of human resources development

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Abstract:

The purpose of this research is the impact of predicting sustainable competitive advantage with emphasis on the mediating role of human resources development. The current research is applied in terms of purpose and descriptive-survey in terms of nature and method. The statistical population of this research is 2500 employees of small and medium companies in Ilam province, the statistical sample of 333 people was selected using Cochran's formula for the first half of 1401. The data was collected using standard questionnaires, which the validity (convergent and divergent) and reliability (factor loading, composite reliability coefficient, Cronbach's alpha coefficient) of the measurement model show that the model has good validity and reliability. . Based on the results of hypothesis testing by SMART-PLS software, knowledge-based leadership has an impact on sustainable competitive advantage and innovation climate, human resource development has an impact on sustainable competitive advantage and innovation climate, innovation climate has an impact on innovative work behavior; Innovative work behavior has an effect on organizational innovation, organizational innovation has an effect on sustainable competitive advantage, finally, human resource development can play a mediating role in the influence of knowledge-based leadership on sustainable competitive advantage and in the influence of knowledge-based leadership on the atmosphere of innovation.

Key words: knowledge-based leadership, human resource development, sustainable competitive advantage, organizational innovation factors.

Introduction

During the years 2018 to 2037, the majority of organizations worldwide are implementing an economy based on creativity and innovation to increase the income level of countries. While this plan creates many opportunities for the business sector, it also presents challenges for future management. Leaders of organizations play a crucial role in utilizing such policies, and the question arises as to which leadership style should be adopted and how it affects the competitive advantage of the business. As most companies in Iran receive direct or indirect support from the government, they should align themselves to benefit from these opportunities and contribute to achieving the country's strategic goals. According to researchers such as Shamim et al. (2017), success in industrial evolution depends on the organization's ability to innovate, teach, and learn. Innovation is critical when facing rapid changes in the business environment caused by technology. Sustainable competitive advantage is also crucial for organizations to ensure survival in an uncertain and challenging environment. Therefore, it is essential to understand how to create sustainable competitive advantage.

When considering the role of leadership in utilizing industrial evolution, the focus shifts to the level of companies. There are various leadership styles discussed in the literature, including the "strategic leadership" approach, which involves the combination of different leadership styles by the leader (Hamza, 2015). At present, knowledge-based leadership is a crucial

aspect of strategic leadership and has gained importance in organizations. It is believed that a leader who prioritizes knowledge can facilitate open innovation and ultimately lead to sustainable competitive advantage (Bakhshan and Derlik, 2022).

Previous research has mainly focused on studying the relationships between knowledge-based leadership, organizational innovation, and sustainable competitive advantage in the education sector. Studies such as those conducted by Donate and Sanchez De Pablo (2015) and Kising'u (2017) have demonstrated that knowledge-based leadership has a direct effect on innovation through the mediating role of knowledge management capabilities. Kising'u et al. (2016) have also provided empirical evidence of the prominent role of organizational innovation in sustainable competitive advantage in the universities they studied. However, there is limited research on the impact of knowledge-based leadership on organizational innovation and sustainable competitive advantage in the context of industrial evolution. Therefore, the present study aims to investigate the role of knowledge-based leadership in achieving sustainable competitive advantage through organizational innovation as a mediating factor. Furthermore, studies by Hitka et al. (2019) and Malik (2019) suggest that in addition to leadership style roles, human capital is also essential for organizations to remain competitive in the industry.

Human resource development has been identified as another critical factor in achieving sustainable competitive advantage. The literature shows a positive relationship between human resource performance and innovation. Higher levels of education increase the skills and learning potential of employees, creating an innovative environment that fosters creativity and ultimately leads to innovation (Deng et al., 2022). Therefore, in addition to examining the impact of knowledge-based leadership on sustainable competitive advantage through organizational innovation components, the current research aims to determine the role of human resource development in this regard.

Based on this, the researchers are looking for an answer to the question of what are the predictors of sustainable competitive advantage, and what is the mediating role of human resources development in this regard?

Theoretical Framework

Sustainable competitive advantage

In today's business environment, sustainable competitive advantage is crucial, and companies must focus on achieving it during their industrial evolution periods. There are two types of competitive advantage in global competition: temporary competitive advantage that leads to high profits in a limited period of time, and sustainable competitive advantage that continues even when competitors cannot use the source of advantage (Ashighi Scuy, 2020). According to the resource-based perspective theory, organizational resources that are valuable, scarce, imitable, and non-substitutable are key factors in creating sustainable competitive advantage. Achieving sustainable competitive advantage can help companies maintain their business smoothly in the face of rapid changes in the technology life cycle and the dynamic state of the industry.

Therefore, achieving sustainable competitive advantage enables companies to reap long-term benefits and avoid potential strategic competition in the industry (Madhani, 2010). In this study, the theory proposed by Kising'u et al. (2016) has been used, which suggests that three factors can be used to measure whether companies can achieve sustainable competitive advantage. The first factor is organizational excellence, which refers to the status or conditions of excellence or being high in quality status (Abzari et al., 2011). The second factor is organizational effectiveness, which refers to the degree to which organizations approach their desired goals through the acquisition and absorption of resources (Sinaii and Manzari Tavakoli, 2015). The third factor is organizational responsiveness, which refers to knowledge exchange in an organization and affects its ability to respond quickly to changes in the business environment, opportunities, and threats (Rezaian et al., 2019).

Knowledge-based leadership and sustainable competitive advantage

Leaders play a crucial role in helping companies face the challenge of industrial evolution and achieve sustainable competitive advantage. To achieve this, the concept of leadership style should be considered. According to the concept of strategic leadership, knowledge-based leadership has been described as a way to discover new knowledge and change the way of thinking to achieve a collective result and more effective processes (Qalich Lee et al., 2020). Previous studies have measured knowledge-based leadership using a combination of interactive and transformational leadership styles (Mariam et al., 2022). Other studies have shown the positive effect of knowledge-based leadership on the development of innovation in the organization (Jafari and Alipour, 2018; Latif et al., 2021). The key characteristics of knowledge-oriented leadership, according to previous research, include consultation, support, stimulation of knowledge dissemination, delegation, guidance, encouragement, recognition, innovative role model, provision of vision, reward and intellectual stimulation, and development of knowledge transfer (Moghli and Sepandasa, 2015). Therefore, more specific leadership characteristics are needed to facilitate learning and implementation of innovation (Hashemi and Yousefi, 2018).

that individual employees who possess in-depth knowledge, innovation capability, and technology adoption can support the organization in achieving sustainable competitive advantage. Previous research has shown that knowledge creation has a significant impact on organizational performance (Philosophian and Akhavan, 2022). While organizational performance is typically associated with the survival of organizations, this study proposes that knowledge creation can be considered a sustainable competitive advantage because it is related to the long-term survival of companies. Wang et al. (2015) also suggested that knowledge workers typically establish good relationships with suppliers and customers, which can lead to the

achievement of sustainable competitive advantage in companies. Based on this, it is assumed that individual employees who possess knowledge, innovation capability, and technology adoption can play a critical role in the development of sustainable competitive advantage in organizations:

Hypothesis 1. Knowledge-based leadership has an impact on sustainable competitive advantage.

Human resource development and sustainable competitive advantage

Based on the resource-based perspective theory, human resources can be considered rare and unrepeatable assets that can provide sustainable competitive advantage for companies (Tarhami et al., 2021). The question then arises as to how to develop this crucial force that plays a decisive role in supporting organizational goals. According to Norouzi Fard and Zamani (2017), there are numerous challenges involved in human resource development, including the fact that it is a process that occurs in the work environment and is designed to promote individual and group learning in the field of work, job, and profession. Additionally, human resource development covers organizational learning, change, and development, and it is exclusively focused on job-related issues in companies. Yes, that's correct. To develop human resources, companies need to focus on promoting individual and collective learning, organizational development, and job-related issues. Wang et al. (2017) define human resource development as a mechanism that is involved in the formation of individual and group values, beliefs, and skills that can be used through activities related to learning to support the optimal performance of the host system. By engaging in these activities, companies can build a skilled and knowledgeable workforce that can provide them with a sustainable competitive advantage.

. Considering the context of economic transformation, the commercial sector must adjust its human resources development process to accelerate its corporate operations in a sustainable and efficient manner. Companies should plan their training activities accordingly to increase the innovative ability of employees and the ability to adopt technology (Shamim et al, 2017). As a result, human resource development is a process that helps employees to learn in different ways. It is expected that this issue can create higher productivity for companies and lead to their sustainable competitive advantage. From this aspect, this hypothesis can be proposed as follows:

Hypothesis 2. Human resource development has an effect on sustainable competitive advantage.

Organizational innovation factors (innovation climate, innovative work behavior, organizational innovation) and sustainable competitive advantage

Innovation is a critical aspect of a company's strategic direction, but it can be challenging to achieve without establishing an innovative atmosphere within the organization. Organizational climate is a crucial factor that can lead to higher performance levels and motivate employees to have a positive attitude towards their work, particularly among the younger generation (Davidescu et al., 2020). The innovation climate of a company is determined by the level of support and encouragement provided to employees to take the initiative and discover innovative approaches. This climate is expected to have a significant impact on the actual level of innovation within the company, as it can either facilitate or hinder the development of new ideas and approaches (Sarros et al., 2008). Therefore, it is crucial for companies to create an innovation-friendly environment that fosters creativity, encourages employees to take risks, and experiment with new ideas. Such an environment can lead to higher levels of innovation, which in turn can provide companies with a sustainable competitive advantage in the long run. This research has placed the climate of innovation in a framework including shared vision, freedom, safe participation, task orientation and support for innovation and is consistent with the study (Mendez, 2018). The relationship between leadership style and climate of innovation has been shown by previous researches. Among these studies is (Donate, M. J., & Sanchez De Pablo, 2015), who found that knowledge-based leadership has a strong effect on innovation performance. According to the fact that knowledge-based leadership consists of exchange and transformational leadership, (Sarros et al, 2008) showed that transformational leadership is related to organizational innovation climate through the mediating role of a competitive, performance-oriented and organizational culture. . Therefore, the hypothesis can be put forward as follows:

Hypothesis 3. Knowledge-oriented leadership has an effect on innovation climate.

Based on the given information, the following hypothesis can be proposed:

The development of human resources has a positive impact on the innovation climate of an organization. While there is limited research on the relationship between human resource development and innovation climate, Shamim et al. (2016) suggest that investing in training and development creates an environment for continuous learning, which can facilitate the exchange of knowledge among employees and contribute to innovation production. Castaneda (2020) also supports this argument by stating that investing in employee development can stimulate innovation. Therefore, it can be hypothesized that developing the skills and knowledge of employees through training and development programs will lead to a more favorable innovation climate in the organization.

Hypothesis 4. Human resource development has an effect on innovation climate.

From an organizational point of view, it is essential to know how to increase organizational innovation. Organizational innovation in this research includes product innovation, process innovation and business model innovation. This concept was deduced from (Dorin, 2018), which showed the application of new ideas in the development of new products, methods, services, processes, technology and organization strategy. In addition, this research completed the concept of organizational innovation through research (Alharbi et al, 2019) and (Kising'u et al, 2016). Based on previous researches, the constituent factors of creating organizational innovation included innovation atmosphere and innovative work behavior. Innovative climate prepares employees to express innovative work behavior and organizational innovation, while innovative work behavior shows the willingness to innovate or develop new ideas, processes, products or methods to benefit the organization's operations. It gives (Hosseini Shakib and Moradian, 2019). Therefore, there are four aspects of innovative work behavior "opportunity exploration, idea generation, idea promotion and application" (De Jong and Den Hartog, 2008), which is believed to be an applicable behavior that can cope with the rapidly changing business environment. In addition, previous findings showed how employees perceived information sharing and supportive supervision related to innovative work behavior. Innovative climate moderates the effect of knowledge sharing perception and training on innovative work behavior (Bos-Nehles & Veenendaal, 2019). As a result, executives should strive to share information, support guidance and create an innovative atmosphere in the organization to stimulate innovative behavior. According to the above review, this hypothesis can be put forward as follows:

Hypothesis 5. Innovation climate has an effect on innovative work behavior.

Significantly, (Shankar et al, 2017) discovered a positive relationship between innovative work behavior and organizational performance. Following similar concepts, this research assumes a relationship between innovative work behavior and organizational innovation as follows:

Hypothesis 6. Innovative work behavior has an effect on organizational innovation.

From the point of view of business competition, organizational innovation can help strengthen the company in its superior position. For example, (Kuncoro & Suriani, 2018) found that the company's product innovation positively affects sustainable competitive advantage. Product innovation increases the value of the company by meeting the needs of the market. In addition, studies by (Matthews & Becker, 2009) (Mavondo et al, 2005) (Kising'u et al, 2016) provided empirical evidence on the links between organizational innovation and sustainable competitive advantage. According to the above review, this hypothesis can be put forward as follows:

Hypothesis 7. Organizational innovation has a sustainable competitive advantage.

Backgrounds of research

Based on the research conducted by (Matthews & Becker, 2016) entitled the role of knowledge-based leadership and the process of knowledge and innovation management in Tehran's Kale dairy products company, the significant relationship between the components of knowledge-based leadership and innovative performance with The mediation of knowledge management components is present and the order of knowledge management components in influencing innovative performance and effectiveness of knowledge-based leadership is such that the knowledge components have the most influence of the knowledge-based leadership component in Kale Tehran Company and also Knowledge storage also has the lowest level of effectiveness. It was also found that in the influence of knowledge management components on innovative performance, knowledge transfer had the highest effect on knowledge creation and also had the lowest effect on the level of innovative performance in Kale Tehran company. (Kising'u et al, 2016) provided empirical evidence on the links between organizational innovation and sustainable competitive advantage. The results of sample universities in Kenya showed that organizational innovation including product, process and management innovation played an important role in the sustainable competitive advantage of universities. In a research conducted by (Jafari & Alipour, 2018) entitled the effect of knowledge-based leadership on organizational innovation through knowledge management practices, a case study in the country's water resources management organization, these results were obtained, a positive and meaningful relationship between knowledge-based leadership and management strategies. There is knowledge and organizational innovation, there is also a direct relationship between knowledge management and innovation that various models in the literature have confirmed the relationship between the above factors and indicate the impact of knowledge-based leadership on organizational innovation through knowledge management practices. (Kuncoro & Suriani, 2018) in a research entitled the impact of company product innovation on sustainable competitive advantage found that company product innovation positively affects sustainable competitive advantage. Product innovation increases the value of the company by meeting the needs of the market.

Conceptual model of research

In order to achieve the goal of the research, and according to the studies conducted and the hypotheses raised and according to the literature review, the following conceptual model was the basis of the present study. Having said that, the most important innovation in the current model is that the previous studies focused more on the theoretical aspect of the case, and if there was any research, they could not fully mention and describe the relationship between the variables, and perhaps it can be safely said that the current study It has been able to establish these relationships between the variables in an efficient manner for the purpose of the study.

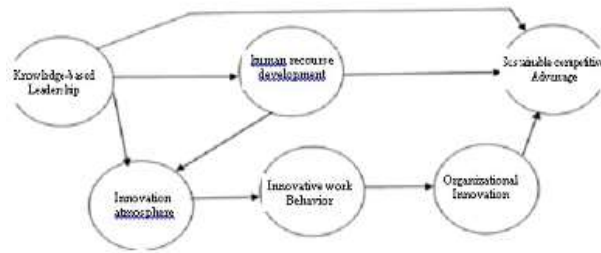


figure 1. Research model

Research method

Based on the objective, this research is part of "applied research" and in terms of the method of data collection, it is of the "survey-descriptive research" type. Considering that the authors of this article seek to determine the relationship between research variables, this research is considered as "correlational research". According to the research variables, the statistical population in this research was the employees of small and medium companies in Ilam province, whose number was 2500. The sample size was 333 people, which was obtained through Cochran's formula, and the selection of people was by simple random method. From the knowledge-based leadership questionnaire (Donate and Sanchez De Pablo, 2015) which consists of 5 questions, the human resource development questionnaire (Suthammanon and Boonsong, 2016), which consists of 6 questions, the questionnaire (Amabile et al, 1996), (Anderson and West, 1998) and (Weiner, 2015), which includes 5 questions, innovative work behavior questionnaire (De Jong and Den Hartog, 2018) and Janssen, 2000)), which consists of 4 questions, organizational innovation questionnaire (Kising'u et al, 2016), which consists of 8 questions and finally the sustainable competitive advantage questionnaire (Kising'u et al, 2016), which contains It is based on 9 questions, they were used, they were used as the main tool of data collection. The scale for measuring respondents' opinions is based on a five-point Likert spectrum, starting from "I completely disagree" and ending with "I completely agree", and the way of scoring the questions is also calculated from 1 to 5. Table 1). The validity of the measurement model was determined based on content validity, convergent validity and divergent validity. Content validity is achieved by ensuring the compatibility between the measurement indicators and the existing literature. This validity was achieved by a survey of professors. Convergent validity is based on the principle that the median correlation of the indicators of each construct is proportional to each other. Average output variances (AVE) were used to measure the convergent validity criterion, which is more than 0.5. Divergent validity was also measured by comparing the root of AVE with the correlation between the underlying variables (Table 2). For each of the reflective constructs, the root of AVE must be greater than the correlation of that construct with other constructs in the model. Also, in determining the reliability of the measurement model, three criteria (Cronbach's alpha coefficient, composite reliability coefficient) were used. Cronbach's alpha coefficients obtained in all variables in this research are higher than the minimum value (0.7). In the composite reliability coefficient, the minimum value of (0.7) and higher, the absolute reliability of the structures will be calculated according to the correlation of the structures with each other. Unlike Cronbach's alpha, which implicitly assumes that each index has the same weight, composite reliability relies on the true factor loadings of each construct; and thus provides a better measure of reliability. Composite reliability should be greater than 0.7 to indicate the internal stability of the structure (Fornell and Larcker, 1981). The reliability and validity results of the model were measured and fully presented in Tables 2 and 3.

Table 1. Descriptive Statistics

	Frequency		
sex	men %58		women %42
Age	60% less than 40 years	30% between the ages of 41 and 55	10% more than 56 years
Evidence	bachelor and below %60		senior and above 40%
work experience	30% less than years	35% between 11 and 20 years	35% more than 21 years

Table 2. Convergent validity and reliability of the measurement model

Research variables		Factor loads		

	Average Variance Extracted (AVE)	Path coefficient	t test	Composite reliability coefficient	Cronbach's alpha reliability coefficient
<u>Knowledge-based leadership</u>	0/611	-	-	0/88	0/83
Question 1	-	0/869	28/828	-	-
Question 2	-	0/736	11/368	-	-
Question 3	-	0/802	24/836	-	-
Question 4	-	0/736	10/704	-	-
Question 5	-	0/756	16/158	-	-
<u>human recourse development</u>	0/575	-	-	0/85	0/84
Question 1	-	0/587	6/866	-	-
Question 2	-	0/744	12/934	-	-
Question 3	-	0/827	21/755	-	-
Question 4	-	0/789	20/623	-	-
Question 5	-	0/732	12/259	-	-
Question6	-	0/844	25/525	-	-
<u>The atmosphere of innovation</u>	0/547	-	-	0/76	0/79
Question 1	-	0/439	2/930	-	-
Question 2	-	0/678	7/961	-	-
Question 3	-	0/821	25/641	-	-
Question 4	-	0/692	7/746	-	-
Question 5	-	0/653	6/043	-	-
<u>Innovative work behavior</u>	0/648	-	-	0/83	0/81
Question 1	-	0/784	16/497	--	-
Question 2	-	0/705	10/397	-	-
Question 3	-	0/852	25/244	-	-
Question 4	-	0/868	39/396	-	-
<u>Organizational Innovation</u>	0/643	-	-	0/93	0/91
Question 1	-	0/772	19/683	-	-
Question 2	-	0/801	17/209	-	-
Question 3	-	0/796	17/907	-	-
Question 4	-	0/839	23/788	-	-
Question 5	-	0/821	17/876	-	-
Question 6	-	0/791	17/038	-	-
Question 7	-	0/758	17/201	-	-
Question 8	-	0/833	29/542	-	-
<u>Sustainable competitive advantage</u>	0/594	-	-	0/89	0/87
Question 1	-	0/753	14/628	-	-
Question 2	-	0/654	9/882	-	-
Question 3	-	0/579	6/260	-	-
Question 4	-	0/785	17/897	-	-
Question 5	-	0/714	14/453	-	-
Question 6	-	0/687	11/522	-	-
Question 7	-	0/758	13/968	-	-
Question 8	-	0/697	8/915	-	-
Question 9	-	0/677	7/637	-	-

Table 3. Correlation matrix and divergent validity of the measurement model

Variable	human recourse development	The atmosphere of innovation	Innovative work behavior	Knowledge- based leadership	Sustainable competitive advantage	Organizational Innovation	

human recourse development	0/817						0/76
The atmosphere of innovation	0/758	0/668					0/74
Innovative work behavior	0/792	0/526	0/805				0/80
Knowledge-based leadership	0/695	0/537	0/622	0/781			0/78
Sustainable competitive advantage	0/711	0/493	0/767	0/575	0/745		0/77
Organizational Innovation	0/638	0/765	0/765	0/614	0/703	0/802	0/81

According to the described contents and the findings obtained from the SMART-PLS software outputs in Tables 2 and 3, the validity (content, convergence, divergence) and reliability (factor loading, composite reliability coefficient, Cronbach's alpha coefficient) of the model were evaluated as favorable.

Research findings

In this research, partial least squares method is used for modeling. This method is used for structural equation modeling. Structural equation modeling is the only tool for analyzing path or causal models. In fact, this method is a combination of principal component analysis, which relates indicators to latent variables, and path analysis, which enables the creation of a system of latent variables. The estimation of the parameters that represent the indicators and path relationships is done using ordinary least squares techniques. In this method, the researcher must first determine the structure of the model and the relationships of the indicators. The software used in this research is SMART-PLS. Below are the outputs of the software and their analysis.

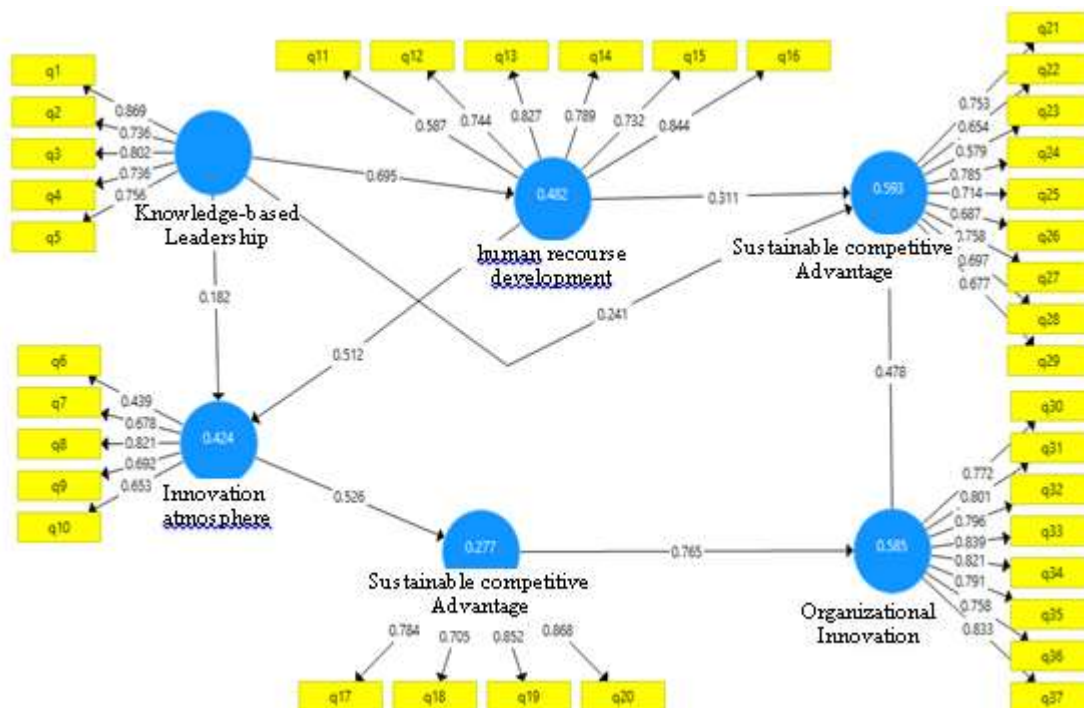


Diagram 2. Path coefficients of the model

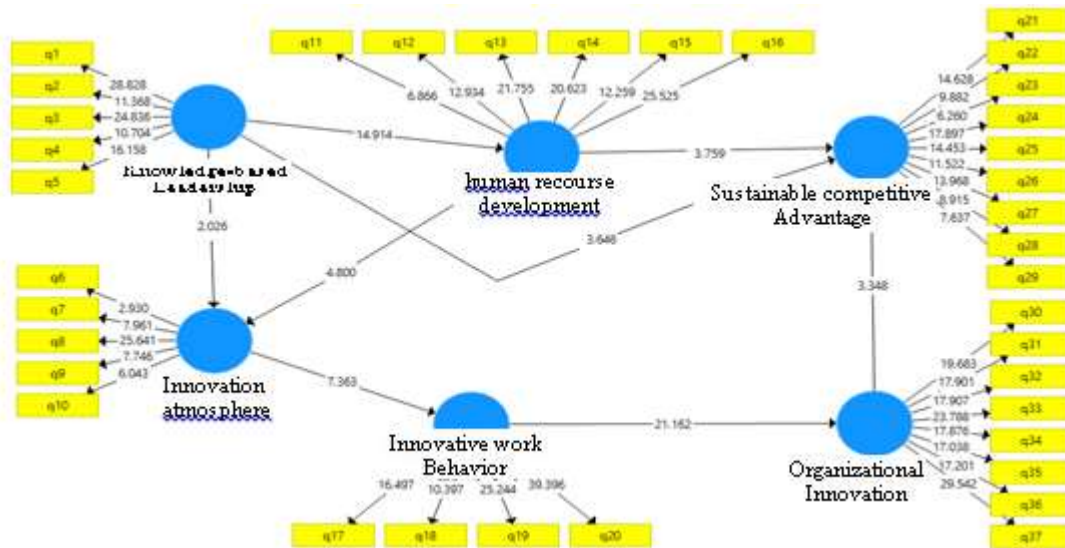


Diagram 3. T test results

It is necessary to explain that the value of t will show the significance of the effect of the variables. If the value of t is greater than 1.96, it means that the effect is significant and positive, but if the value of t is between +1.96 and -1.96, it indicates that there is no significant effect between the variables at all. Also, if the value of t is smaller than -1.96, it means that there is a negative and significant effect between the variables. If the path coefficients can be greater than 0.6, it indicates that there is a strong relationship between the variables, but if the path coefficients are between 0.3 and 0.6, it indicates that there is a moderate relationship between the variables, and finally If the path coefficient is less than 0.3, it means that there is a weak relationship between the variables (Chin, 2003). The data obtained according to graphs (2) and (3) are usefully and briefly shown in table 4.

Table 4: Summary of the results of hypothesis testing

Variables	Path coefficient	T test value	Significance level	The amount of influence
Knowledge-based leadership → Sustainable competitive advantage	0/241	3/646	Meaningful	weak
Human resource development → Sustainable competitive advantage	0/311	3/759	Meaningful	medium
The Knowledge-based leadership atmosphere of innovation	0/182	2/026	Meaningful	weak
The human resource development atmosphere of innovation	0/512	4/800	Meaningful	medium
The atmosphere of innovation → Innovative work behavior	0/526	7/363	Meaningful	medium
Innovative work behavior → Organizational Innovation	0/765	21/162	Meaningful	Strong
Sustainable Organizational Innovation → Sustainable competitive advantage	0/478	3/348	Meaningful	medium

Based on the information in the above-mentioned table, which is specified through the results of the research hypotheses test, it can be said that: the findings of the hypothesis test are significant according to the path coefficients and their t value. Although the hypotheses of the research include only direct effects, it has been tried to check the amount of direct and indirect effects as much as possible in Table No. have been.

Table 5. Separation of total, direct and indirect effects

Relationships	direct effects	Indirect effects	Total effects
Sustainable competitive advantage ← Knowledge-based leadership	0/241	0/178	0/385
Sustainable competitive advantage ← human resource development	0/311	---	0/311
The atmosphere of innovation ← Knowledge-based leadership	0/182	0/109	0/537

The atmosphere of innovation ← human recourse devlopent	0/512	----	0/512
Innovative work behavior ← The atmosphere of innovation	0/526	----	0/526
Organizational Innovation ← Innovative work behavior	0/765	----	0/765
Sustainable competitive advantage ← Organizational Innovation	0/478	----	0/478

In the above discussion, the direct and indirect effects and the total effects were examined, in the following, the role of mediating variables will be examined according to table number (6). The Sobel test was used for the role of the mediator variable, so when the Z-value in the Sobel test is greater than 1.96, it indicates that the role of the mediator variable is significant at the 95% confidence level. (Davari and Rezazadeh, 2018).

Table 6. Z-value values obtained from the Sobel test

Mediator variable name	Z-value	mediation effect
Human resource development in influencing knowledge-based leadership on sustainable competitive advantage	2/107	minor
The development of human resources in the influence of knowledge-based leadership on the atmosphere of innovation	2/614	minor

According to Table No. (6), the value of Z-Value for human resource development is greater than 1.96, and therefore it can be said that the effect of mediating variables of human resource development is significant at the 95% confidence level. If the indirect path of the variables is significant, it means that their product is also significant and it is possible to evaluate the inclusion of variance, so the mediator variable will be in one of the following three states: $VAF < 0.20$ without mediation effect ≤ 0.20 $VAF \geq 0.80$ has a partial mediating effect, $VAF > 0.80$ has a complete mediating effect (Moradi and Miralmasi, 2019). In the following, the fitting of the model has been discussed according to the GOF criterion. This criterion is related to the general part of structural equation models. and was introduced by (Tenenhaus et al, 2004). (Wetzels et al, 2009) have introduced three values of 0.01, 0.25 and 0.36 as weak, medium and strong values for GOF. The value of GOF criterion is equal to 0.41 and more than 0.36, which indicates the strong fit of the overall research model.

Table 7. The results of the general fit of the model with the GOF criterion

Endogenous variables	R^2	subscription index	GOF
Knowledge-based leadership	-	0/367	GOF = $\sqrt{(0.473*0.354)} = 0.41$
human recourse development	0/482	0/384	
Sustainable competitive advantage	0/593	0/339	
The atmosphere of innovation	0/424	0/204	
Innovative work behavior	0/277	0/362	
Organizational Innovation	0/585	0/464	

Discussion and conclusion

As mentioned, the purpose of this research was to investigate the impact of knowledge-based leadership and human resource development as a result of sustainable competitive advantage with an emphasis on organizational innovation factors. The results of the first hypothesis showed that knowledge-based leadership has an effect on sustainable competitive advantage. This finding is in line with the results obtained from (Wang et al, 2015). By confirming this hypothesis, the managers of the mentioned companies should act as a model as a leader, such as updating knowledge, trends and new technology for employees, and the executive managers themselves should understand the importance of management approaches. Managers should assume the role of knowledge leaders, which makes them strive to achieve the company's goals with transparency, tolerance of mistakes and mediation. Managers are employees who share their knowledge and skills in the organization or company for improvement. They put and use it, they should be rewarded, which in itself causes more motivation in the employees. It is suggested that managers create the necessary areas for the integration and combination of innovation from internal and external sources for the participation of employees in improving customer orientation, and that employees are involved in decision-making as much as possible, and the opportunity to provide capabilities based on Creativity and innovation should be given to them. It is suggested that managers use the participation of employees in knowledge sharing to provide the basis for creating

the mental motivation of employees and by involving them in processes based on effectiveness, provide the basis for empowering them and with Development and expansion of education and knowledge based on the processes for the development of knowledge in all units, to finance from internal and external sources, and in this regard, by helping the company's units to each other and taking the initiative in important decisions, knowledge leadership compared to domestic competitors. and be increased externally.

The results of the second hypothesis indicate that the development of human resources has an effect on sustainable competitive advantage. The finding is similar to the results of (Shamim et al, 2017). By confirming this hypothesis, the managers of the mentioned companies should be able to provide a road map and teach entrepreneurs in this map to gain knowledge about how management practices can be used by businesses that face uncertain business contexts. are, support (Kayal, 2013) Human resource development helps organization managers to equip employees with knowledge and ability/expertise in their work and lead them to valuable assets that can be a vital source of competitive advantage.

Based on the findings of the third hypothesis, it was determined that knowledge-based leadership has an effect on the climate of innovation, which is in agreement with the results obtained by (Jafari & Alipour, 2018) and (Rozitalab & Tadbri, 2016) and Sarros et al. 2008) It is similar. By confirming this hypothesis, company managers need employees who are effective and efficient so that they can reach the peak of the goals set in the direction of all-round growth and development. Of course, the success of any organization depends not only on the achievement of goals, but also on the way of management and style. Effective leadership also depends. Because the appropriate leadership style is a factor of organizational innovation that can lead companies to a competitive advantage. In other words, managers can be effective when they create in the company the necessary grounds for integrating and combining innovation from internal and external sources in line with the participation of employees in improving the company's customer orientation in decision-making, and employees as much as possible in decision-making. participate and provide the necessary information related to the duties of the employees. One of the most important effective factors in this field is knowledge-oriented leadership.

Based on the results of the fourth hypothesis, it was found that the development of human resources has an effect on the climate of innovation, which is similar to the results of the research (Castaneda, 2020). Therefore, managers should prioritize the development of human resources because this process is to prepare employees who can be valuable resources for companies, so they should have a balanced learning program that can be used both for theory and practice. The working practices of employees should be used.

The findings of the fifth hypothesis indicate that the climate of innovation has an effect on innovative work behavior, which is similar to the research results (Bos-Nehles, & Veenendaal, 2019). Therefore, managers should take steps to improve the atmosphere of innovation in the company, which is the first part of organizational innovation in the direction of innovative work behavior. Accordingly, people and employees of the organization should cooperate with each other and inform each other about the issues and problems of the company related to team work.

The findings of the sixth hypothesis revealed the fact that innovative work behavior has an effect on organizational innovation. This result is similar to the research results (Shanker et al, 2017). Therefore, managers should take steps to promote innovative work behavior in the company, which is the first part of organizational innovation. Because innovative work behavior and organizational innovation will ultimately pave the way for sustainable competitive advantage and will make companies present new ideas to solve difficult problems in the company.

The results of the seventh hypothesis also stated that organizational innovation has an effect on sustainable competitive advantage. This result is similar to the research results of (Kuncoro & Suriani, 2018) and (Matthews & Becker, 2009) (Mavondo et al, 2005), (Kising'u et al, 2016). Therefore, in order to achieve a sustainable competitive advantage, managers should be able to use innovative ideas through new technologies that exist in this field, employees should be encouraged to be more decisive in their opinions and in sharing ideas. New ones are more comfortable. (Kising'u et al, 2016) found that organizational innovation plays an important role in creating sustainable competitive advantage.

In the end, considering the results of the structural equation model, it can be said that few studies have been conducted in the field of investigating the relationship between variables; For this reason, investigation and research on such relationships between these variables are important. Because it is very important to have a clear understanding of what elements will help increase sustainable competitive advantage. Having said that, this research created a basic prerequisite for effective and efficient corporate systems so that companies can meet the demands and needs of their employees. Finally, the results of this research have been a good starting point for further research both theoretically and practically. Theoretically, creating more knowledge and better predicting the relationship between measured variables leads to a better understanding of sustainable competitive advantage. In practical applications, additional information about the formation of these variables and their relationship with each other helps to manage sustainable competitive advantage and thus leads to increased competition, hence the conceptual model presented in this research. It can be considered as an experimental model as a guide and a basis for scientific and practical research in the future, and as the most important recommendation for future researchers, through which they can conduct a study using the variables of this research. make a provincial comparison between small and medium companies and compare their results with the results of this research. To increase the validity and reliability of the estimated model in this research. However, the importance of knowledge-based leadership can also be considered in this. Of course,

according to the results mentioned above, the limitations that the researchers faced in this research are, firstly, the employees, fearing that the answers to the questions may affect their service status and rights, may ask the questions with a conservative view. have answered and secondly, the completion of the questionnaires was slow due to the corona virus epidemic.

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