
The effect of intellectual capital on organisational performance: evidence from Iran

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Abstract: The purpose of the present study is to investigate the effects of structural factors such as intellectual capital and factors dependent on resource-based view on organisational performance. The research statistical population is consisted of pharmaceutical companies located at Rasht Industrial Zone. Structural equations using SPSS22 and SMART PLS2 software were utilised to data analysis. Seven out of the eight hypotheses presented in this study, including the impact of intellectual capital on organisational performance, the impact of intellectual capital on dynamic capabilities, the impact of dynamic capabilities on competitive advantage, the impact of dynamic capabilities on service capabilities, the impact of dynamic capabilities on organisational performance, the impact of dynamic capabilities on organisational performance, and the impact of competitive advantage on organisational performance were statistically confirmed. Also, the impact of service capabilities on organisational performance was not confirmed in pharmaceutical companies located in Rasht Industrial Zone.

Keywords: intellectual capital; organisational performance; service capabilities; dynamic capabilities; competitive advantage.

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1 Introduction

Naturally, organisations are always looking to achieve their determined objectives (Mohammadi and Avakh Darestani, 2019). In this context, financial perspective is to display the organisation's performances to important stakeholders through financial criteria (Asgari and Avakh Darestani, 2017). Financial structure is undoubtedly considered as the most important parameter affecting the valuation of companies and their orientation in capital markets in today's economic world. The existence of a powerful and efficient financial sector is a critical factor in the optimal performance of the economic and financial system for any symbol and company (Mirghafouri et al., 2012).

Performance is the end consequence of all activities that are defined in an organisation as the end result of the company's activities, events, transactions, and routines (Navarro-García et al., 2016). Performance measurement is a quantitative process of measuring firm performance that is performed using a set of criteria that can be financial and non-financial, so that financial performance includes the returns on the resources controlled by the company. The information regarding financial performance is presented in the profit and loss statement and comprehensive income statement (Bozorgmehrian and Arabi, 2015).

In the today's competitive environment, the variety of brands and consequently the right to choose, has increased dramatically due to increasing demands of customers on improving product quality and this in a context where there are few restrictions to enter the consumer goods market. Although the number of manufacturing companies has been rising in recent years, however the financial tsunami has taken over the entire global economy, which has greatly increased environmental uncertainty and turbulence. Some manufacturing companies that could not adapt themselves to environmental changes have gone bankrupt in such a situation (Psom and Kafetzopoulos, 2014).

Intellectual capital has been extensively discussed in developed nations for organisation's value creation. In a competitive market, intellectual capital proved to be a source of a competitive advantage for organisations (Barkat and Beh, 2018). The competition builds upon the strategic partnerships, the effective management of information and the use of technology based on intellectual capital. Intellectual capital – human capital, organisational capital and social capital-increase the innovation capacity. One can conclude that, there is a close relationship between innovation and information infrastructure in enterprises at strategic level (Pinar et al., 2019). The members of an organisation contribute their functional expertise via communicating,

cooperating, coordinating, and sharing information, in which case, social capital will have a direct effect on the capability for creating intellectual capital (Sözbilir, 2018).

Strategic review of organisational performance can identify the current position of the organisation in the market and guide future plans of the organisation (Wang et al., 2015). Organisational performance determines which resources contribute to the success of the organisation and which can lead to losses (Van Camp and Braet, 2016). Due to the importance of organisational performance in continuity and permanent profitability for companies, many models have been proposed to identify the factors affecting organisational performance. Despite the good potential for becoming one of the most successful industries in the country, Iran's pharmaceutical industry has suffered from stagnation and underdevelopment in recent years for various reasons. In case of enhancing performance, the pharmaceutical industry is among the industries that can make significant improvements in GDP. Considering the importance of performance, it is possible to improve its organisational performance in the market in addition to strengthening its position in the market by identifying the parameters related to organisational performance in the pharmaceutical companies of Rasht Industrial Zone (Middle East Bank of Iran Pharmaceutical Statistics, 2015). Competitive advantage, according to the resource-based view, includes a set of factors or capabilities that always enable the company outperform its competitors.

Competitive advantage refers to the values that the company provides to its customers in such a way that these values are higher than customer costs (Weerathamrongsak and Wongsurawat, 2013). According to the resource-based view, competitive advantage depends on the available resources and capacities to compete and achieve a privileged position in terms of performance on the market. The existence of competitive advantage in an organisation means better performance than competitors, which ensures profitability in short-term and the survival and growth of the organisation in the long term, which leads to increased or preserved market share and market leadership (Kim et al., 2012). Considering the importance of factors affecting the organisational performance improvement, the present study aims to answer the question that "is intellectual capital and factors dependent on resource-based view can have a significant impact on the organizational performance of pharmaceutical companies in Rasht Industrial Zone?"

The present study aims to describe the intellectual capital, organisational performance, service capabilities, competitive advantage and dynamic capabilities variables, assess their impacts on the organisational performance under a case study performed in the pharmaceutical companies in Rasht Industrial Zone and to test research model. Considering that the Rasht Industrial Zone is ranked at the 13th in the country in terms of the number of active industrial units, and ranked sixth in the country in terms of development, it would provide an excellent case study for this research. The findings of this research can determine the current state of the pharmaceutical manufacturing companies in terms of sales, market share, and profitable and non-financial units. Also, it can help to improve the performance of pharmaceutical manufacturing companies in Rasht Industrial Zone by identifying the most important factors related to organisational performance.

The rest of the paper is structured as follows. Section 2 of the study will be dedicated to the theoretical foundations and literature review. The research method and data analysis were presented in Section 3. Section 4 is related to data analysis and finally,

conclusion and suggestions for future research were provided in Section 5 of the paper. At the end of this work, the implication of research is dedicated in Section 6.

2 Theoretical foundations and research literature

2.1 Theoretical foundations

Intellectual capital involves knowledge, ability, skills, work instructions, experience and creativity that result in competitive advantage for the organisation (Su and Carney, 2013). A higher level of employee awareness and experience in dealing with the client leads to satisfaction and loyalty and promotion of human capital in an organisation that is associated with creative and skilled personnel to meet the customer needs (Chen et al., 2014). Utilising information systems, organisational capital provides the organisation the ability to design products according to the customer requirements and experience in dealing with the client by gaining a coherent picture of the customers' needs. Whatever the organisation's culture tends to be customer-oriented, it more likely leads to increased customer demand and customer need recognition and reduces uncertainty in the market, which finally improves organisational performance (Kelley et al., 2011). Relational capital leads to improved organisational performance through improved quality interactions between customers and staff (Clarke et al., 2011).

The rearrangement capability refers to changes in organisational structure and assets that will allow companies to grow in the market and change their market conditions. Learning capability refers to searching, identifying, discovering new opportunities and doing the right thing (Kuo et al., 2017).

Dynamic capabilities relate to the managerial competencies (strategic) and organisational that can enable organisations to achieve competitive advantage and to maintain their competitive advantage (Parker et al., 2015). Dynamic capabilities are seen as organisational processes. Examples include product development practices, mergers and acquisitions, resource allocation procedures, and transfer and replication procedures.

Dynamic capability is a means to nurture the company's operational capabilities and is a key mechanism for organisational growth, modernisation and innovation that leads to value for the customer and finally, improving the organisational performance (Kuo et al., 2017).

2.2 Literature review

Tseng and Lee (2014) investigated the effects of knowledge management and dynamic capability on organisational performance. The statistical population of their research was consisted of industrial companies in Taiwan among which, 323 managers were selected through purposeful sampling. According to their results, knowledge management has a significant impact on organisational performance and dynamic capability. Also, dynamic function has a significant impact on organisational performance (Tseng and Lee, 2014).

Asiaei and Jusoh (2015) investigated the multidimensional view of intellectual capital and its impact on organisational performance in Tehran Stock Exchange. Their research statistical population was the companies accepted in stock exchange among which, 128 managers were selected as sample. The results obtained from this study indicate that intellectual capital dimensions have a significant impact on organisational performance.

Singh and Rao (2016) examined the impact of intellectual capital on dynamic capabilities in state-owned banks in India. Their research statistical population is consisted of the public banks of India. 241 managers were surveyed as the research sample. Structural equations using SPSS and LISREL software were used for analysing the data. According to their results, the dimensions of intellectual capital, human capital, and social capital have a great influence on the dimensions of dynamic capabilities (i.e., learning, integration, re-configuration, and management of alliances); however, organisational capital does not affect the management of alliances and reconfiguration (Singh and Rao, 2016).

Kuo et al. (2017) examined the relationship between dynamic capabilities, service capabilities, and competitive advantage with the organisation's performance in the transportation containers in Taiwan. According to their findings, there is a significant relationship between dynamic capabilities and service capability, as well as dynamic capability and competitive advantage. There was no significant relationship between dynamic capabilities and organisational performance.

Also, there is a significant relationship between service capabilities and organisational performance as well as between the competitive advantage and organisational performance.

Najmi et al. (2018) conducted a research entitled "the impact of intermediary dynamic capability in the relationship between knowledge management and strategic leadership on organizational performance." Generally, the results indicated a positive role of dynamic capability on organisational performance. Also, the intermediating role of dynamic capability was also confirmed in their research.

Nemati et al. (2013) developed the model of the competitive advantage of manufacturing companies based on the dynamic capability's theory and strategic agility in line with the economic development in Semnan City. Among the dimensions of competitive advantage, strategic agility has the most relevance with innovation, and dynamic resources are the most influential factor in achieving competitive advantage.

Akbari and Esmailzadeh (2013) investigated the role of dynamic capabilities in creating competitive advantage. Three capabilities of integration, learning and configuration were identified as dynamic capabilities, and it was found that all of them had an impact on competitive advantages, and that learning dimensions among the dynamic capability's dimensions had the most impact on competitive advantages (Akbari and Esmailzadeh, 2013). Kordnaej et al. (2014) was also examined the impact of dynamic capabilities on organisational performance with a balanced scorecard approach. Their research statistical population is the detergent manufacturing companies throughout the country. According to the obtained results, dynamic capabilities affect the organisational performance, and it has been determined that internal capabilities, innovation capabilities, and adaptive capabilities affect performance as the dimensions of dynamic capabilities (Kordnaej et al., 2014).

Hoseini and Sheghaghi (2015) studied the recognition of the intellectual capital in the Supreme Audit Court and its impact on organisational performance. According to the hypothesis testing results, there is a positive and significant relationship between intellectual capital, human capital, structural capital, relational capital and organisational performance. Shahtahmasebi et al. (2016) designed the business model of competitive advantage through organisational and customer-centric social capital, explaining the role of dynamic capabilities dimensions. The results indicate that social capital has an impact

on dynamic capabilities, and also the dynamic capability has an impact on competitive advantage.

Ayati Mehr et al. (2017) performed a research entitled 'The role of knowledge management on organisational performance, considering the mediating role of market orientation and innovation'. Regression analysis confirmed that the market orientation variable has a more significant role than innovation in this relationship.

Hak Leem and Rogers (2017) studied the moderating effect of supply chain role on the relationship between social capital and performance. The primary objective of this study is to examine the relationship between supply chain social capital and firm performance and to find out whether the supply chain role of a firm (supplier, manufacturer, distributor, logistics provider) has a moderating effect on the positive relationship between the dimensions of social capital and the firm performance. The results show that three dimensions of social capital would directly affect firm performance. Furthermore, the supply chain role moderates the relationship between three dimensions of social capital and overall firm performance. Owing to the differences in the results across the supply chain roles, three dimensions of social capital are more likely to improve firms' performance based on its role in the supply chain. This paper employs the partial least squares (PLS) structural equation model to analyse a set of survey data from respondents of companies in Korea.

Ghassabi (2018) studied measuring of intellectual capital indexes using FAHP technique in higher education. The main aim of this study was to measure intellectual capital indices. The model used in their studies was tested on a sample of 30 experts. The main instruments used for gathering the data was through records and questionnaires. In this study, different levels of sub-criteria used for human resources capital, organisational capital, communicative capital, and sub-criteria used for intellectual capital were ranked. by using a fuzzy analytic hierarchy process. The results obtained from FAHP indicate that, as related to the indexes used for measuring intellectual capital, human resource capital is the most important factor among the other factors. According to the scales related to human resource capital, we have realised that leadership ability and employee behaviour are the most important factors. According to the scales related to organisational capital, we have also realised that being up-to-date has a high priority. According to the scales related to communicative capital, we have realised that customer is the first priority and market and stockholders are the next priorities.

Akintimehina et al. (2019) examined social capital and its effect on business performance in the Nigeria informal sector. This study was aimed at investigating the effect of internal and external social capital on the financial and non-financial performance of businesses in the Nigerian informal sector. The study further investigated the controlling role associated with the firm age. A cross-sectional survey of 650 informal business owners in the Ikeja Region of Lagos state, Nigeria was carried out. The analysis was carried out using the partial least square method of the structural equation model (SEM). Results revealed that without the controlling variable of firm age, social capital had a significant effect on business performance, internal social capital had a significant effect on non-financial performance, it, however, had no significant effect on financial performance, while external social capital had no significant effect on financial and non-financial performance. With the controlling variable of firm age, social capital had a significant effect on business performance, internal social capital had a significant effect on financial and non-financial performance, while external social capital had no significant effect on financial and non-performance. The study, therefore, recommended

that informal entrepreneurs take advantage of their internal social capital resources and also try to build their external social capital as they may become vital for their business success.

Although the impact of dynamic capability on organisational performance has been addressed in previous studies, but very few studies has considered the simultaneous review of the dynamic capability and service capability and their impact on organisational performance, and there is a significant gap in research on service capabilities and its role in enhancing organisational performance. The present research contribution is in the development of models provided by Kuo et al. (2017), Singh and Rao (2016) and Asiaei and Jusoh (2015).

In Kuo et al. the research model, the factors affecting organisational performance, including dynamic capability, service capability and competitive advantage. In Singh and Rao research model, the impact of intellectual capital on dynamic capability has been studied. Also, Asiaei and Jusoh have studied the impact of intellectual capital on organisational performance of pharmaceutical companies in Gilan province of Iran.

3 Research method

Current study in term of objective is applied and in term of method of data collecting, of descriptive- correlation kind. In terms of nature and method of research, it is based on a descriptive survey. Furthermore, the present study is spatially field-based. A questionnaire was designed and distributed in order to collect the required data.

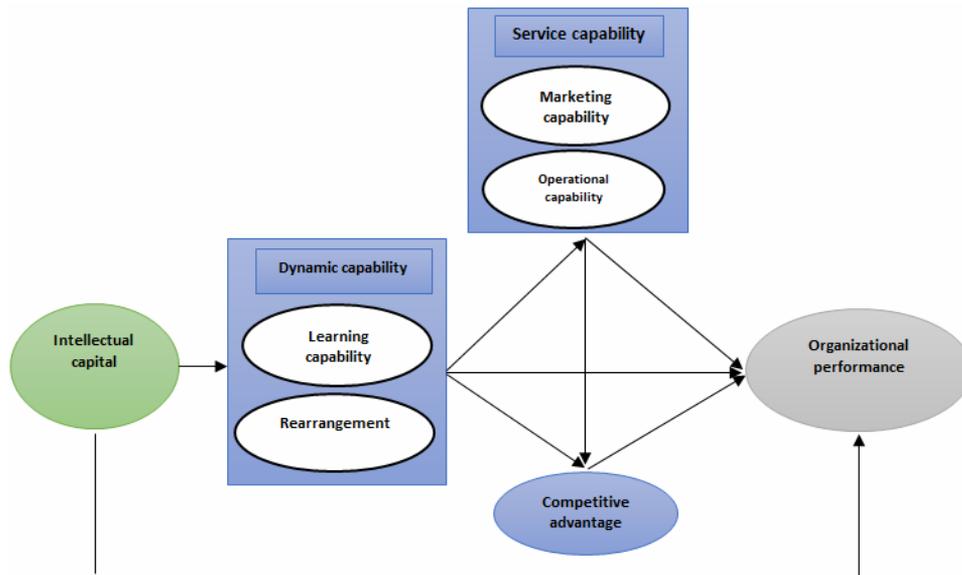
Asiaei and Jusoh (2015) suggested that the managers' intellectual capital in organisations and other sectors could contribute to organisational positive outcomes. Singh and Rao's (2016) also suggested that their result be further examined in the future research. Kuo et al. (2017) stated that an increasing number of studies have shown that service capabilities are related to competitive advantage and organisational performance. The research conceptual model was formed according to the research. The present research model adapted from three models of Kuo et al. (2017), Singh and Rao (2016), and Asiaei and Jusoh (2015). The factors influencing organisational performance include dynamic capability, service capability and competitive advantage in the Kuo et al. research model. The impact of intellectual capital on dynamic capability has been studied in the Singh and Rao research model. The impact of intellectual capital on organisational performance has been addressed in Asiaei and Jusoh's research model. Intellectual capital has been considered as independent variable, dynamic capability, service capability and competitive advantage have been considered as intermediary variables and organisational performance has been considered as independent variable. The statistical population used is based on pharmaceutical companies located at Rasht Industrial zone in Gilan province (Sobhan Darou, Caspian Tamin, Sobhan Oncology and Behvazan). The Cochran formula has been used in the present study for sampling from a limited population. The sampling method in this research was stratified random sampling. The minimum number of required samples is 293 people.

According to the research conceptual model, the hypotheses were formulated as follows (Figure 1):

Hypothesis 1 Intellectual capital has a significant impact on organisational performance of pharmaceutical companies located at Rasht Industrial Zone.

- Hypothesis 2 Intellectual capital has a significant impact on the dynamic capabilities of pharmaceutical companies located at Rasht Industrial Zone.
- Hypothesis 3 Dynamic capabilities have a significant impact on the competitive advantage of pharmaceutical companies located at Rasht Industrial Zone.
- Hypothesis 4 Dynamic capabilities have a significant impact on the service capabilities of pharmaceutical companies located at Rasht Industrial Zone.
- Hypothesis 5 Dynamic capabilities have a significant impact on organisational performance of pharmaceutical companies located at Rasht Industrial Zone.
- Hypothesis 6 Service capabilities have a significant impact on the competitive advantage of pharmaceutical companies located at Rasht Industrial Zone.
- Hypothesis 7 Service capabilities have a significant impact on the organisational performance of pharmaceutical companies located at Rasht Industrial Zone.
- Hypothesis 8 Competitive advantage has a significant impact on the organisational performance of pharmaceutical companies located at Rasht City.

Figure 1 The research conceptual model (see online version for colours)



Source: Kuo et al. (2017), Singh and Rao (2016) and Asiaei and Jusoh (2015)

4 Data analysis

SPSS22 and SMART PLS2 software were used to analyse the data. Descriptive and inferential statistics were used to analyse the data collected in this research.

Table 1 The questionnaire reliability coefficients, convergent validity, AVE, R^2 values, Q^2 value

Variable	Symbol in model	Test statistic	Sig. level	Result	Combined reliability CR > 0.7	Cronbach's alpha $\alpha > 0.7$	AVE	Values Q^2	R^2 value
Competitive advantage	SQ	1.125	0.159	Normal	0.885638	0.852627	0.757303	428102	0.638397
Dynamic capability	DC	1.034	0.236	Normal	0.928373	0.880492	0.605213	0.452636	0.756093
Intellectual capital	IC	1.192	0.116	Normal	0.90728	0.877536	0.518154	---	---
Organisational performance	AD	2.491	0.000	Non-normal	0.842876	0.809201	0.804958	0.330416	0.817529
Service capability	OP	1.687	0.007	Non-normal	0.856144	0.832968	0.513368	0.518076	0.738452

After analysing data in SPSS software and the output of the Kolmogorov-Smirnov test, if the test was significant, that is the significance level is smaller than 0.5, it means that the distribution is not normal and the nonparametric test should be used. So, if the result of this test is not significant, then it is possible to use parametric tests (Habibi, 2012). Table 1 shows the Kolmogorov-Smirnov test for the research variables.

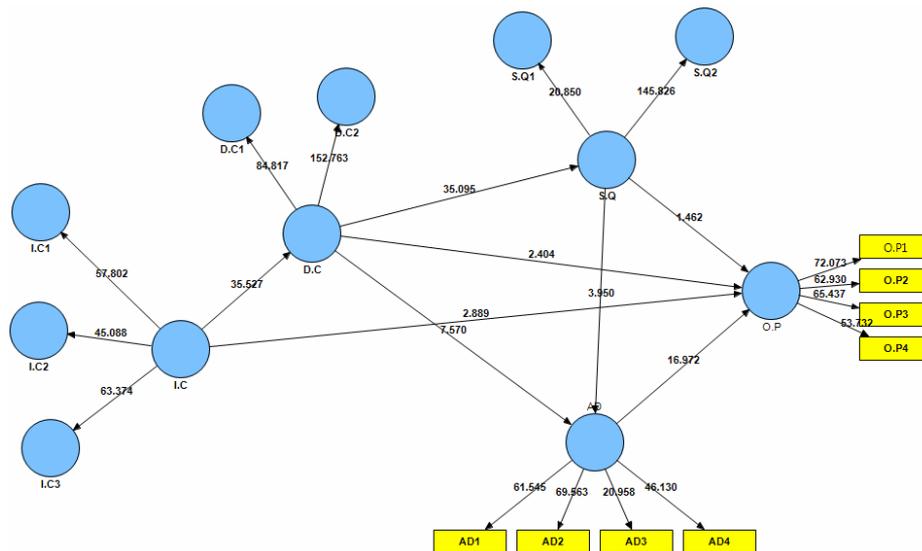
As can be seen from Table 1, the significance level obtained for the Kolmogorov-Smirnov test is more than 0.05 for the variables of service capability, dynamic capability and intellectual capital. So, the distribution of variables is normal; however, the significant level is less than 0.05 for the competitive advantage and organisational performance variables. As a result, these two variables do not have normal distribution in the studied sample.

The symbols assigned to the research variables are first described in Table 1 before entering the data analysis stage.

4.1 The research model fitness

The model fit was examined in three parts of the measurement model, structural model and general model to determine the extent to which the research model is proportional to the data collected from the statistical sample. After confirming the model fit, the researcher is allowed to examine and test the research hypotheses. After obtaining data about variables, PLS Software was provided the final research model including a large part of the analysis developed. Figure 2 shows the model in the t-value significant coefficients.

Figure 2 The final research model in terms of t significance coefficients (see online version for colours)



Also, all analyses and examining the fitness of measurement, structural and general models, and testing hypotheses are performed based on these outputs. The standard coefficients estimation mode is the homogeneous coefficients which scale is unified and

can be compared. These coefficients are the same path coefficients or regression standardised beta.

Using this case, one can find out the relevance of the relationship between the research variables. In this case, the numbers will be significant to be outside the range (–1.96 and 1.96). This means that if the t-test is a number between 1.96 and –1.96, it will be non-significant.

4.1.1 The research measurement models fitness

Three indicators of reliability, convergent validity and divergent validity are used in order to study the model fit.

- The index reliability is measured by three criteria of factor load coefficient, Cronbach's alpha and its combined reliability.
 - a Factor load coefficients: Factor loads are calculated by calculating the correlation between the construct indices and the construct itself. The 0.5 value for these coefficients confirms that the variance between the construct and its indices is more than the variance of measurement error of the construct and its reliability is confirmed.

The factor loads have values greater than 0.5 in all model constructs; so, the reliability of the measurement models is confirmed, which indicates the proper fit of the measurement model.
 - b Cronbach's alpha and combined reliability: Cronbach's alpha coefficients and combined reliability of the constructs represent the ratio of variance between each construct and its indices to the total variance of the construct. The reliability coefficient above 0.7 is known as acceptable. According to obtained results, all factors have a composite reliability coefficient. Also, Cronbach's reliability coefficient is acceptable, so it can be concluded that the research questionnaire has a good reliability. As a result, the measurement model fitness is also confirmed.
 - c Convergent validity: Averaged variance extracted (AVE) has been used to examine convergent validity. AVE shows the correlation of a construct with its indices. Ab Hamid et al. (2017) introduced this criterion for measuring convergent validity, and stated that the critical value of this value is 0.5. This means that a value greater than 0.5 is indicative of convergent validity. The results of the convergent validity study of the model constructs are presented in Table 2.

The AVE value for all model constructs is at least 0.5; so the convergent validity of the model and the measurement models fitness are confirmed.
- Divergent validity: To demonstrate the independence of the concepts used in the research, divergent validity was used by Fornell-Larcker. According to Table 2, the value of the AVE (values on the main diagonal) of all the latent research variables is greater than the correlation between them with other variations, which indicates the appropriate divergent validity of the measurement models.

Table 2 The results of the study of the model divergent validity based on the Fornell-Larcker matrix (see online version for colours)

<i>Variable</i>	<i>Competitive advantage</i>	<i>Dynamic capability</i>	<i>Intellectual capital</i>	<i>Organisational performance</i>	<i>Service capability</i>
Competitive advantage	87.0				
Dynamic capability	0.71	78.0			
Intellectual capital	0.72	0.67	0.72		
Organisational performance	0.69	0.72	0.70	0.90	
Service capability	0.65	0.66	0.69	0.71	0.72

Fit the structural model: According to the data analysis algorithm in the PLS method, after fitting the measurement models to the fit, the structural research model is sought.

R^2 criterion: R^2 is a criterion for linking the model measurement part to the structural part and indicates the effect that an exogenous variable has on an endogenous variable. The values of 0.19, 0.33 and 0.67 were reported as weak, moderate and strong R^2 , respectively. The results of this criterion are presented in Table 1.

According to Table 1, the R^2 obtained value indicates the relatively good fit for the structural model according to the three criterion values.

Q^2 criterion: The Q^2 criterion determines the predictive power of the model. In their view, models that have acceptable structural fit should have the predictability of indices related to the model's endogenous constructs. The Q^2 value must be calculated for all of the model's endogenous constructs. The Q^2 values for all of the model endogenous variables are given in Table 1.

According to the values obtained for Q^2 and the three criterion values of 0.02, 0.15 and 0.30, that are determined as weak, moderate and strong values for the predicted power intensity by Henseler et al. (2009), the predictive power for the model variables demonstrates the appropriate predictive power and appropriate fit of the structural model is confirmed.

The model goodness of fit: In this section, the model goodness of fit is examined according to the GOF criterion. Considering the average of the total values of the constructs (the total values of the first order constructs) and the mean of R^2 for all the model endogenous constructs, the GOF value for the model goodness of fit in the present research is equal to:

$$GOF = \sqrt{\text{Communalities} \times \overline{R^2}} = \sqrt{0.639 \times 0.738} = 0.687$$

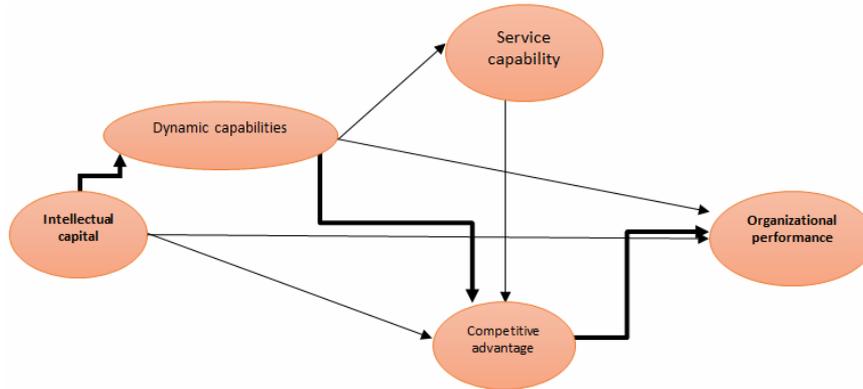
According to the three values of 0.01, 0.25 and 0.36 as weak, moderate and strong values, the 0.687 value for GOF indicates a robust overall fit of the research model.

4.2 The proposed model

According to the results of the model test and the results of the hypotheses, the suggested research model is shown in Figure 3. Given that the impact of service capability on organisational performance has not been confirmed, the proposed model does not show the corresponding effect of service capabilities on organisational performance. Also, based on the results of the indirect routes analysis, the best proposed route corresponds

the effect of intellectual capital through dynamic capability and competitive advantage on organisational performance, which is drawn in the Figure 3 as the bold line.

Figure 3 The research proposed model (see online version for colours)



5 Conclusions and suggestions for future research

Hypothesis 1 Intellectual capital has a significant impact on organisational performance of pharmaceutical companies located in Rasht Industrial Zone.

According to the structural research model, it can be observed that in case of significance coefficients, the amount of t-test between the two variables of intellectual capital on the organisational performance of the pharmaceutical companies in Rasht Industrial Zone is outside the range $(-1.96$ and $1.96)$ with a value of 2.88 and then, the hypothesis is accepted. Also, the impact of intellectual capital on the organisational performance of pharmaceutical companies in the industrial zone of Rasht is equal to 0.187. That is, if the intellectual capital increases by one unit, the organisational performance will increase by 9.18 units, or 0.3% of organisational change can be predicted and explained by intellectual capital. This result is consistent with the Asiaei and Jusoh (2015) and Hoseini and Sheghaghi (2015).

Hypothesis 2 Intellectual capital has a significant impact on the dynamic capabilities of pharmaceutical companies in Rasht Industrial Zone.

According to the structural research model, it can be observed that in case of significance coefficients, the amount of t-test statistics between the two variables of intellectual capital and the dynamic capabilities of the pharmaceutical companies of Rasht Industrial Zone is outside the range $(-1.96$ and $1.96)$ with a value of 35.52 and then, the hypothesis is accepted. Also, the impact of intellectual capital on the dynamic capabilities of pharmaceutical companies in the Rasht Industrial Zone is equal to 0.870. That is, if the intellectual capital increases by one unit, the dynamic capabilities will increase as much as 0.87 units, or 0.75 of the dynamic capability's changes can be predicted and explained by the intellectual capital. This result is in line with Singh and Rao (2016) and Shahtahmasebi et al. (2016).

Hypothesis 3 Dynamic capabilities have a significant impact on the competitive advantage of pharmaceutical companies located in Rasht Industrial Zone.

According to the structural research model, it can be observed that in case of significance coefficients, the t-test statistics between two variables of dynamic capabilities and competitive advantage of pharmaceutical companies of Rasht Industrial Zone is outside the range (-1.96 and 1.96) with a value of 7.57 and then, the hypothesis is accepted. Also, the impact of dynamic capabilities on the competitive advantage of pharmaceutical companies in Rasht Industrial Zone is equal to 0.548. That is, if dynamic capabilities increase by one unit, the competitive advantage will increase as much as 0.54 units, or 0.29 of the competitive advantage changes can be predicted and explained by dynamic capabilities. This result is in line with Kuo et al. (2017), Akbari and Ismailzadeh (2013) and Nemati et al. (2013).

Hypothesis 4 Dynamic capabilities have a significant impact on the service capabilities of pharmaceutical companies located in Rasht Industrial Zone.

According to the research structural model, it can be observed in case of significance coefficients, that the t-test statistics between two variables of the dynamic capabilities and service capability of pharmaceutical companies in Rasht Industrial Zone is outside the range (-1.96 and 1.96) with a value of 35.09. Then, the hypothesis is accepted. Also, the impact of dynamic capabilities on service capabilities of pharmaceutical companies in Rasht Industrial Zone is equal to 0.859. That is, if dynamic capabilities increase as much as one unit, service capability will increase as much as 0.85, or 0.72 of the service capability changes can be predicted and explained by dynamic capabilities. This is consistent with Kuo et al. (2017).

Hypothesis 5 Dynamic capabilities have a significant impact on organisational performance of pharmaceutical companies located in Rasht Industrial Zone.

According to the research structural model, it can be observed that in case of significance coefficients, the t-test statistics between two variables of dynamic capabilities and organisational performance of pharmaceutical companies in Rasht Industrial Zone is outside the range (-1.96 and 1.96) with a value of 2.44, and thus, the hypothesis is accepted. Also, the impact of dynamic capabilities on organisational performance of pharmaceutical companies in Rasht Industrial Zone is equal to 0.159. That is, if dynamic capabilities increase by as much as one-unit, organisational performance will increase as much as 0.15 units or 0.02 of organisational performance changes are predicted and explained by the dynamic capability. This result is in line with Tseng and Lee (2014) and the Kordnaeij et al. (2014).

Hypothesis 6 Service capability has a significant impact on the competitive advantage of pharmaceutical companies located in Rasht Industrial Zone.

According to the research structural model, it can be observed that in case of significance coefficients, the amount of t-test statistics between the two variables of the service capability and competitive advantage of the pharmaceutical companies of Rasht Industrial Zone is outside the range (-1.96 and 1.96) with the value of 3.95. Thus, the hypothesis is accepted. Also, the impact of service capability on the competitive advantage of pharmaceutical companies of Rasht Industrial Zone is equal to 0.277. That

is, if the service capability increases by one unit, the competitive advantage increases by 0.27 units, or 0.07 of the competitive advantage changes can be predicted and explained by the service capabilities. This result is consistent with Kuo et al. (2017).

Hypothesis 7 Service capability has a significant impact on the organisational performance of pharmaceutical companies in Rasht Industrial Zone.

According to the research structural model, it can be observed that in case of significance coefficients, the amount of t-test statistics between the two variables of the service capability and competitive advantage of the pharmaceutical companies in Rasht Industrial Zone in the interval of (-1.96 and 1.96) with the value of 1.46 and thus, the hypothesis is not accepted. This result is not consistent with Kuo et al. (2017).

Hypothesis 8 Competitive advantage has a significant impact on the organisational performance of pharmaceutical companies in Rasht City.

6 Implication of research

According to the research structural model, it can be observed that in case of significance coefficients, the amount of t-test statistics between the two variables of competitive advantage and organisational performance of the pharmaceutical companies of Rasht Industrial Zone is outside the range (-1.96 and 1.96) with a value of 16.97. Thus, the hypothesis is accepted. Also, the impact of competitive advantage on the organisational performance of pharmaceutical companies of Rasht Industrial Zone is equal to 0.670. That is, if the competitive advantage increases by one-unit, organisational performance will increase as much as 0.62 units, or 47.4 of the organisational performance changes are predicted and explained by competitive advantage. This is consistent with Kuo et al. (2017).

Based on the research findings, the following suggestions are made:

Regarding the confirmation of the impact of intellectual capital on the dynamic capabilities of pharmaceutical companies in Rasht, it can be stated that the concept of development of the idea by the employees has a lower mean than that in other indicators. In order to enhance this index, it is suggested, in participatory meetings, to evaluate the status of the company, the employees' views on executive practices such as production methods, product sales and presence in new markets. Nevertheless, it is imperative to grant more executive power employees in general.

Based on the confirmation of the dynamic capabilities on the services capability of pharmaceutical companies of Rasht Industrial City and on the basis of the dynamic capability indicators presented, it can be stated that the flexibility index for new product development is lower than that in other indices offered. In order to enhance this index, it is suggested that the company make changes in its production plan as market technologies change and take into account changes in customer needs by examining further market information.

Regarding the confirmation of the effect of competitive advantage on organisational performance, it can be stated that the cost-benefit index has a lower mean than that in the competitors presented. In order to upgrade this index, it is suggested that company operate in markets that are more successful and to control market costs by reducing the cost of low-profit sectors and allocating them to the best-selling sectors.

Based on the confirmation of the effect of dynamic capabilities on competitive advantage, it can be stated that learning ability is lower than that in other indicators. In order to improve this index, it is suggested that the company participate in international markets and specialised seminars in the field of product production and sales and cooperate more with reputable international companies.

Based on the confirmation on the impact of service capability on competitive advantage, it can be stated that effective response to customer complaints has lower mean than that in other indicators provided. To improve this index, it is recommended to use new systems in customer relationship management via website management, and providing a separate section to handle customer complaints. According to the confirmation of intellectual capital hypothesis on organisational performance, it can be stated that information and knowledge integration index in systems and structures has lower mean than that in other indices presented. To improve the index, it is recommended to use information systems capable of long-term, reliable and unlimited storage of information such as RFID and new technologies.

Regarding the confirmation of the effect of dynamic capabilities on organisational performance, it can be stated that the indicator of ability to learn through relationship with partners is lower than that in the other indices offered. In order to enhance this index, it is suggested that consider agreeing to work together to provide more information resources to the company.

The study of the theoretical foundations of dynamic capabilities shows that this variable has multitude of dimensions, however, only two dimensions of rearrangement and learning were discussed. Also, according to different performance indicators, financial and non-financial indicators were not separated in this study.

The following suggestions are presented given the constraints of this research:

- It is suggested to investigate other pharmaceutical companies in other province in future research.
- Given that 100% of the dependent variable is not explained by an independent variable, then it is suggested that the impact of other variables, such as brand equity, service quality, customer satisfaction, etc. is considered on organisational performance.
- It is suggested that a longitudinal study is conducted to increase the generalisability of the study.
- It is suggested to investigate other dimensions of intellectual capital such as customer capital and relational capital and the dimensions of perception, integration, and coordination in dynamic capabilities as well as indicators of organisational performance variable in both financial and non-financial terms in future research.

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