Artículo de investigación

Intermediate business intelligence and the relationship between market orientation and business performance

Inteligencia empresarial intermedia y la relación entre la orientación al mercado y el rendimiento empresarial

Inteligência empresarial intermedia e a relação entre a orientação para o mercado e o empresariado

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Abstract

The purpose of this study was to investigate the effect of market orientation on business performance through the role of business intelligence intermediary in the EN bank. this research is a descriptive survey. The statistical population of this study is 250 people from the EN bank. Structural equation modeling and LISREL software were used to analyze the data. The results indicate that the dimensions of market orientation (customer orientation, and inter-task coordination) have a significant effect on business performance. However, the effect of customer orientation on the performance of the EN bank business is more than other factors. The results also show that market orientation has a positive impact on business performance through the intermediary variable of business intelligence. However, senior management of banks, based on business intelligence, must operate in a manner towards market orientation, which is part of corporate culture and bank values, and all executives and employees are committed in practice, and Release information about customer needs that lead to higher performance.

Keywords: Market orientation, business performance, customer orientation, competitive, business intelligence.

Resumen

El propósito de este estudio fue investigar el efecto de la orientación del mercado en el desempeño del negocio a través del rol de intermediario de inteligencia de negocios en el banco EN. Esta investigación es una encuesta descriptiva. La población estadística de este estudio es de 250 personas del banco EN. Se utilizaron modelos de ecuaciones estructurales y software LISREL para analizar los datos. Los resultados indican que las dimensiones de la orientación del mercado (orientación al cliente y coordinación entre tareas) tienen un efecto significativo en el rendimiento del negocio. Sin embargo, el efecto de la orientación al cliente sobre el desempeño del negocio bancario EN es más que otros factores. Los resultados también muestran que la orientación al mercado tiene un impacto positivo en el rendimiento del negocio a través de la variable intermedia de inteligencia de negocios. Sin embargo, la alta gerencia de los bancos, basada en inteligencia empresarial, debe operar de una manera orientada hacia el mercado, que forma parte de la cultura corporativa y los valores bancarios, y todos los ejecutivos y empleados están comprometidos en la práctica, y divulgar información sobre las necesidades del cliente que llevan a mayor rendimiento.

Palabras claves: orientación al mercado, desempeño comercial, orientación al cliente, competitivo, inteligencia empresarial.

Resumo

O objetivo deste estudo foi investigar o efeito da orientação do mercado sobre o desempenho dos negócios através do papel do intermediário de inteligência de negócios no banco EN. Esta pesquisa é uma pesquisa descritiva. A população estatística deste estudo é de 250 pessoas do banco EN. A modelagem de equações estruturais e o software LISREL foram utilizados para analisar os dados. Os resultados indicam que as dimensões de orientação para o mercado (orientação ao cliente e coordenação entre tarefas) têm um efeito significativo no desempenho dos negócios. No entanto, o efeito da orientação do cliente no desempenho do negócio do banco EN é mais do que outros fatores. Os resultados também mostram que a orientação para o mercado tem um impacto positivo no desempenho dos negócios por meio da variável intermediária de business intelligence. No entanto, a gerência sênior dos bancos, baseada em business intelligence, deve operar de forma orientada para o mercado, que faz parte da cultura corporativa e dos valores bancários, e todos os executivos e funcionários estão comprometidos na prática. maior desempenho.

Palavras-chave: orientação para o mercado, desempenho dos negócios, orientação para o cliente, competitiva, business intelligence.

Introduction

Acquiring and retaining competitive advantage is one of the main goals pursued by bank executives. In spite of rapid changes and environmental barriers in the banking industry, raw data transformed into information and data analysis has made them an important strategy for each organization, which increases the competitive advantage of organizations (Shamsul et al., 2015). In addition, in the high levels of modern banking systems, there is high necessities for more detailed information. As a result, the information should be formatted, summed up and reported several times, or that the decision maker only receives levels of detail which is needed, for example, the production manager receives information from the details, while It needs to know the data on trends, patterns and losses (Ghahremani and Nowruzi, 2017). in order to overcome this problem, data process technology, called business intelligence, helps companies to automate their analysis, strategy preparation and forecasting tasks so that decisions making can be better. Business intelligence has become a turning point in the organization's systems and the need for decision support in many organizations to the utopia and the goal of implementing software and systems, and has allocated a huge investment in the field of information technology. (Chen, 2012). On the other hand, market orientation, intelligence creation across the organization in relation to current and future customer needs, intelligence dissemination among the sectors of the organization, and global accountability to intelligence. On the other hand, in terms of

architecture and process, business intelligence is viewed as a framework that increases the effectiveness of the organization and the integration of processes, and ultimately focuses on decision-making processes at different levels of the organization (Chad, 2013), Therefore, business intelligence, not as a product, but as a system, was considered as a new architecture and approach, which includes a set of applications and analyzes that, based on operational and analytical databases, assisted It decides on intelligent business and business activities. If the concept of business intelligence is not understood and transmitted correctly, managers' expectations will suddenly increase, and failure to meet these expectations will lead to cases such as discontinuing individuals and, in particular, managers in his system; Because business intelligence only seeks to shorten query methods inside information and is not capable of providing an offer or strategy independently and without the need for proper information (Shojaei et al., 2013). However, it can be somehow market-orientation and business intelligence that expands them more comprehensively to the practical and theoretical field. Based on the applied approach, it can be said that one of the features of advanced and competitive banking is to have market orientation competencies and their emphasis on business intelligence and attention to customer attitudes and at the same time the distinctive feature of traditional and non-competitive banking The lack of these competencies and the lack of attention to market conditions and customers (Shakeri and Hasani,

2013). In spite of many reasons for the lack of competitiveness of Iranian commercial banks, the main reasons for this category are the lack of adequate knowledge of the needs, demands, preferences and sensitivities of the customers and the manner in which competitors operate in competitive markets and lack of method. And lack of existing Modern technologies in the process of implementing activities. It seems that considering the experiences of the successful banks of the world, it is possible to consider the orientation of the Iranian banks market as an effective factor in solving their problems and their competitiveness (Gol et al., 2014). However, the lack of market-based capabilities is one of the most important problems of modern banks. One of the reasons for this problem is the lack of a clear and particular approach to business intelligence development. Although the study of business intelligence and market orientation has a lot of history, unfortunately, in the fields of science and politics (especially in the banking industry), the importance and position of this sector are not discussed. It is one of the challenges that modern bank managers are facing to it. the lack of market-based capabilities is one of the most important problems of modern banks.

How can customers provide better services through market-orientation and relying on market-orientation?

Is there a proper way to improve market orientation in a competitive banking environment?

With regard to above mentioned, internal banking systems, due to disadvantages in the traditional approach of business intelligence, such as high design costs and hardware costs, create data warehouse, problems with efficiency, flexibility, speed, and complete dependence on system designers. By Using a new solution that can overcome these problems which is quite tangible. Looking at the activities of the modern economy bank in developing business intelligence, we find that IT managers have not paid close attention to business intelligence processes to pay attention to the competitive advantage of banking. By Looking at the activities of the EN bank in developing business intelligence, we find that IT managers have not paid close attention to business intelligence processes with regard to the competitive advantage of banking. However, the reasons for the decline in efficiency can be attributed to the unfavorable situation of market orientation and to the consideration of business intelligence among employees and managers. Hence,

identifying a suitable and appropriate solution for improving the competitive advantage of the bank is necessary. Based on this issue, considering the importance of these variables in banking domain, the researcher tries to test the extent of the impact of these factors on business performance in order to look at the relationship between business intelligence and market orientation as well as the intermediary component, including business intelligence. Therefore, with regard to the issues mentioned in the present research, the main question is, what is the effect of market orientation on business performance through business intelligence in the EN bank?

Theoretical background of research

Market orientation

Market orientation as a type of organizational philosophy, by coordinating the activities of different parts of the organization, is an effective instrument for achieving and maintaining competitive advantage. Market orientation is a behavioral norm that undertakes organizations to recognize and respond to the necessities of customers. despite to popular belief that market orientation is the philosophy of trying to fulfill all the needs of customers without attention to its costs, market orientation is an attempt to confront financial crises of the organization (Chad, 2013). Indeed, market orientation is based on profitability, customer focus and coordination. Researchers categorize market orientation into three elements of intelligence creation, intelligence publishing, and intelligence response. According to the authors, the first key element of market orientation is to create market intelligence in the organization. This intelligence is achieved through formal and informal mechanisms such as customer survey, meeting and discussion with customers, analysis of sales reports, official market research, etc. (Chen, 2012). The most important point in creating market intelligence is that this intelligence should not be specific to the marketing sector, but all parts and departments of the organization should be intelligent to the market and the customer, and the information obtained from the customer among all the divisions of the distribution organization and play. This will lead to the creation of a second element of market orientation, i.e., the distribution of intelligence between members and sectors. Intelligence distribution means adapting the organization to market and customer needs, that is, it can distribute information about customers

and competitors across all sectors, and it is the basis for applying employees.

Business performance

Business performance is one of the most important constituents discussed in management, and no doubt, the most important measure of success in business is considered (Taghizadeh et al., 2014). Therefore, the survival and success of organizations in today's competitive environment, whose transformation, complexity and uncertainty is the main property, requires the adoption and implementation of effective strategies and continuous improvement of performance (Zahedi et al., 2015). Business owners use the function to track the goals and objectives of the company. Investors use business performance to evaluate financial indicators and overall productivity. Management by using business performance to analyze past performance and build up compatibility with the future competitive environment, and employees use business performance to track productivity for fitting reward criteria (Lee et al., 2015). Commercial performance also refers to how the missions, tasks and business activities are performed, and the results they perform. In another definition, organizational performance is to achieve or exceed organizational and social goals and to carry out the responsibilities of the organization. In the past, the organization of the air might appreciate the importance of non-financial criteria, but could not combine them with performance reports related to senior levels, because these criteria have less transparency than financial criteria, and senior management.

Business Intelligence

Business intelligence means the process of increasing the profit of an organization by using market information. nowadays, organizations and companies, and the environment around them, move quickly and change. Getting the right information at the right time is the basis of successful decision-making and the survival of the organization, but there is always a deep gap between the information needed by the business and massive data managers gathered in everyday corporate operations in different parts of it (Chen, 2012). The greatest benefit from business intelligence is the unrestricted access of decision makers to data at all levels of the organization. Business intelligence refers to the ability of an organization to collect, maintain, and organize

accurate and timely data. This capability leads to the production of a wealth of information that will generate new opportunities. In addition, business intelligence can be a set of concepts and methods for developing business decisions through real-time supporting systems. The value of business intelligence systems in business mainly implies the fact that such systems provide information that may serve as a basis for creating and modifying a particular corporation. Among other things, it is possible to establish new areas for cooperation, new customers, new marketing process and new products for customers. (Shamsul et al., 2015) In the simplest form, business intelligence provides information about the business to managers. by Using business intelligence, information is provided to managers at an appropriate time and with greater flexibility, and this will increase the speed, innovation and competitive ability of organizations.

Empirical research background

Eidizadeh et al. (2017) analyzed the role of business intelligence, market orientation and organizational innovation in achieving competitive advantage. The results showed that business intelligence has a positive and significant impact on competitive advantage as well as sharing knowledge and organizational innovation in gaining competitive advantage. In addition, business intelligence affects market orientation. Nevertheless, the role of business intelligence in gaining a competitive and positive advantage. Resarchers conducted research in 203 Chinese companies. The data were analyzed by multiple regression analysis. This research studies the effects of duality on firm performance, considering the type of market dominance in the company (active market orientation and reactionary market orientation). The results of this research have shown that in a company with reactive market orientation, the effect of post-exploitation on the firm's performance is positive and in a company with dominant market orientation, the effect of exploration dimension on the performance of the firm is evaluated and then exploitation has little effect and not affect the firm's performance. Researchers identified research as a smart intelligence for business in the area of logistics and the persistent advantage that they need a model to identify the factors affecting competition to achieve a sustainable competitive advantage through business intelligence. And follow the process of achieving the goal of a sustainable competitive advantage systematically. business intelligence refers to the

process of converting raw data into business and management information that helps decision makers of organization to make their decisions faster and better based on the correct information. In 2011, Fayal and Liu conducted a study examining the relationship between marketing effectiveness and business performance in the UK's financial services industry. He defined the five variables for measuring marketing effectiveness (customer satisfaction, marketing information, integrated marketing information, operational efficiency, and strategic orientation) based on the five-variable Katler model. The effects of different dimensions of marketing effectiveness on profitability and growth as well as customer-based performance indicators in his research have been studied. The results of the research show that organizational variables such as customer satisfaction, operational efficiency, marketing information and integrated marketing activities are positively and significantly related to business performance. Ghahremani and Noruzoi (2016) examined the impact of business intelligence on gaining sustainable competitive advantage in West Azerbaijan Province KESHAVARZI Bank. The research instrument is a questionnaire which is both standard and for independent study of business intelligence, and for evaluating the dependent variable (sustainable competitive advantage), the questionnaire was used. The validity of the questionnaires was confirmed by professors and the reliability of the questionnaires was confirmed by Cronbach's alpha, which was equal to 0.86. Finally, for the analysis of the data obtained from the questionnaires, the Kolmogorov-Smirnov, Spearman tests and regression was used. The results of the research indicate that business intelligence is benefiting from sustainable competitive advantage in West Azerbaijan KESHAVRZI Bank. Vahdat (2014)

investigated the impact of new technologies of business intelligence on organizational innovation from the perspective of managers (Case study: computer system of Isfahan province). In this research, the results of the return of 84 designed responses for the study, which included 18 questions, were analyzed. The results showed that 6 sub-assumptions were approved and, consequently, the main hypothesis of the research was confirmed So, in sum, new technologies of business intelligence have an impact on the organization's innovation. Investigator examined the effect of organizational content on the effectiveness of business intelligence. In order to study the collected data, descriptive statistics and inferential statistics (Kolmogorov-Smirnov test, Spearman correlation coefficient test and Friedman test) were used. The results of the research indicate a positive and significant relationship between the organizational dimensions and the effectiveness of business intelligence and also According to theoretical foundations, the main hypothesis of the research is as follows:

Main hypothesis

Market orientation has a positive impact on business performance.
Sub-hypotheses of the research are as follows:
1. competitor orientation has a positive impact on business performance.
2. Customer orientation has a positive impact on business performance.
3. Interagency coordination has a positive impact on business performance.
4. Marketability through the business intelligence mediator has a positive impact on business performance.
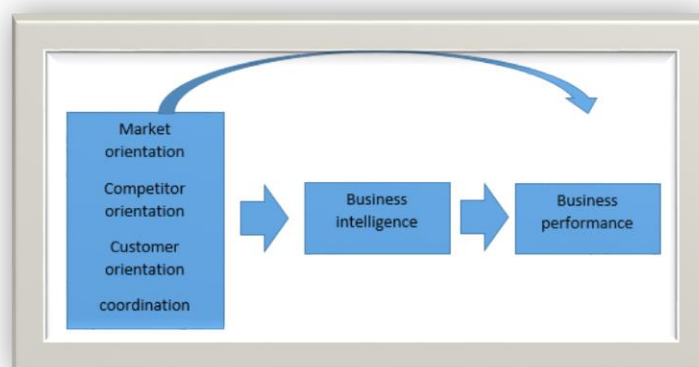
Conceptual model of research

Figure 1. Conceptual model of research: Joho et al. (2014)

Methodology of research

This research is applied with regard to the purpose of the research. The data collection is descriptive and correlational. The statistical population of the study consisted of 250 employees of modern economics. Consequently, by using the sampling formula of the limited population, 151 of them were identified for proper analysis. Became The sampling method used is simple random sampling because the results of this research not relate to the organization's posts or their educational level. The research questionnaire was measured by using the Likert scale of 5 points (I totally disagree = 1, disagree = 2, I have no idea = 3, I agree = 4, I totally agree = 5). in order to test the hypothesis of the research, reliability and validity of the questionnaires were first assessed through Cronbach's alpha coefficient. This coefficient for all variables of the conceptual model of research was more than 0.7; the obtained model shows the validity and compatibility of the research structures (Table 1).

Table 1. Cronbach Alpha of Variables

Cronbach alpha	variable
0/874	Market orientation
0/901	Business intelligence
0/899	Business performance

Investigating research hypothesis

IN order to investigate the hypotheses, the distribution of research data is first examined. To decide on the use of parametric or nonparametric tests, we investigate the normality of the data through the Kolmogorov-Smirnov test. The results of the Kolmogorov-Smirnov test are shown in Table 2.

The distribution of the variable is normal

The distribution of the variable is abnormal

$$\begin{cases} H_0 \\ H_1 \end{cases}$$

According to the results of the test, the null hypothesis, that is, the normalization of the variables is confirmed. Table 2. Results of research on the distribution of research data.

Result of test	Kolmogorov statistics	(α) Probability level	Significant level Sig	variable
Normal distribution	1.741	0.05	0.850	Competitor orientation
Normal distribution	1.526	0.05	0.112	Customer orientation
Normal distribution	1.023	0.05	0.147	coordination
Normal distribution	1.114	0.05	0.59	Business performance

Finding of the research

in order to analyze the hypothesis, Structural Equation Modeling Technique has been used with LISREL software version 8.8.

Table 2 explains all titles of the variables in the research model:

Table 2. abbreviation guidance for Model Variables

| abbreviation	indicator
Market orientation (MO)	MO
Customer Orientation (CO)	CO
Competitor-oriented (COO)	COO
Inter-functional coordination (IFC)	IFC
Business Performance (BP)	BP

Testing the main hypothesis

Figure 2 shows the structural model of the main research hypothesis in the standard estimation.

Figure 3 also shows the structural model of the main hypothesis in a significant coefficient.
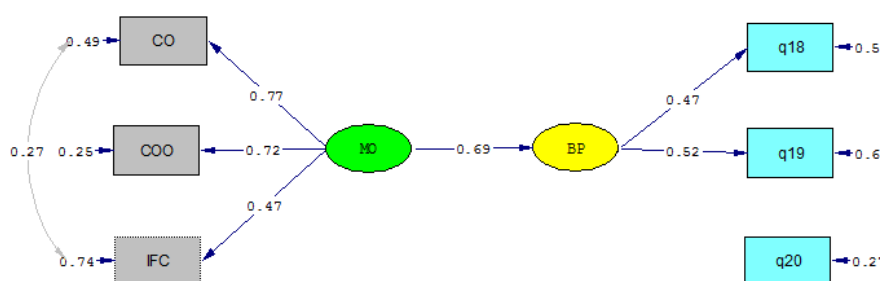
Chi-Square=25.01, df=13, P-value=0.00070, RMSEA=0.062

Figure 2. Structural model of the main hypothesis in the standard estimation
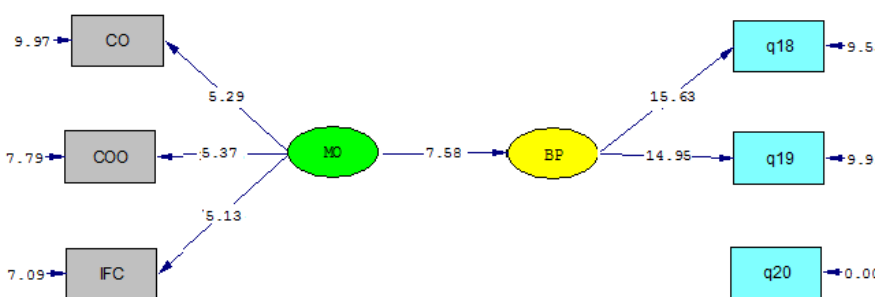
Chi-Square=25.01, df=13, P-value=0.00070, RMSEA=0.062

Figure 3. Structural model of the main hypothesis in the state of significant coefficients

Figure 3: shows the significance relationships of the variables. If the value of (t) is between -1.96 and 1.96, then the stated value is considered meaningless. According to the output of Fig. 3, all coefficients with a digit greater than 1. 96 are statistically acceptable.

Table 3. The results of the test of the main hypothesis of the research

The result of test	T value	Standard estimation	hypothesis
confirmed	7/58	0/69	Impact of market orientation on business performance

Testing of sub-hypothesis

Figure 4 shows the structural model of research hypotheses in the standard estimation. Figure 5

shows the structural model of sub-hypotheses in a significant coefficient status.
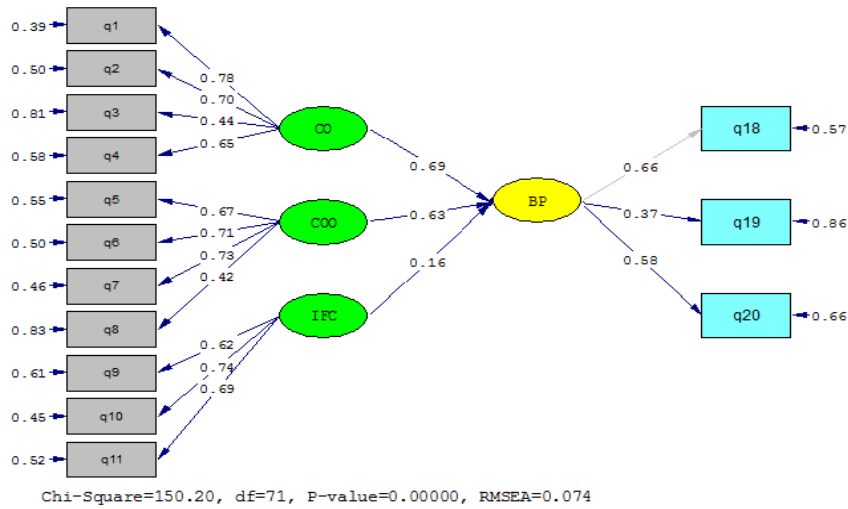
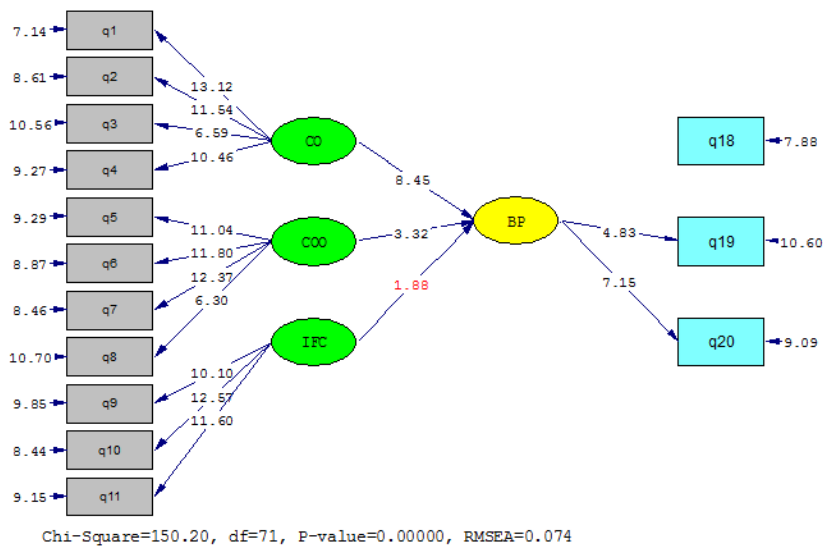Figure 4. Structural model of sub-assumptions in standard estimation

Figure 5. Structural model of sub-hypotheses in the significant coefficients status

According to the output of Fig. 5, all coefficients with a digit greater than 1. 96 are statistically acceptable. Table 4 presents the results of the analysis of the structural equation model for testing sub-hypotheses of the research. The results of the model confirm the causal relationship between the impact of market orientation (competitor orientation, customer orientation and inter-functional coordination) on business performance.

Table 4. Test results of sub-hypotheses of research

Test result	T value	Standard estimation	hypothesis
confirmed	8.45	0/63	The impact of competitor orientation On business performance
confirmed	3.32	0/69	The impact of customer orientation on business performance
confirmed	1.88	0/16	The impact of inter-functional coordination On business performance

Table 5 shows the fitting goodness indicators, which indicate the fitting of the model.

result	Optimum value	value	Fitting indicator
Suitable fitting	<3/00	2/11	$\chi 2$/df
Suitable fitting	> 0/90	0/92	GFI
Suitable fitting	> 0/7	0/92	AGFI
Suitable fitting	<0/05	0/011	RMR
Suitable fitting	> 0/90	0/93	NFI
Suitable fitting	> 0/90	0/94	IFI
Suitable fitting	> 0/08	0/074	RMSEA

intermediate hypothesis: Market orientation has a positive impact on business performance through the intermediary of business intelligence. According to Table 6, the significance level for the two-step hierarchical regression model is less than 5%. Therefore, we can say that the interaction between market orientation and business intelligence after adding the model is significant. Therefore, the business intelligence variable with an effect factor of 0.335 significantly increases the effect of market orientation on business performance. As a result, the hypothesis is accepted.

Table 6. Intermediate assumption testing

Significance level	Statistics t	Standardized coefficient		Non-standardized coefficient		Levels of model
		Beta		Std. Error	B	
.000	9.741			.152	1.452	Constant value
.000	6.256	.258		.744	.233	market orientation
.000	5.028			.085	1.014	Constant value

| .000 | 3.6322 | .272 | | .088 | .415 | Market orientation |
| .000 | 3.741 | .155 | | .052 | .335 | Business intelligence |

Dependent variable: business performance

Conclusion and Recommendations

The importance of market orientation in recent years has led organizations and managers to use different strategies to achieve this goal. Developing customer relationships for banks is crucial to achieving a mutually beneficial relationship, to the extent that in recent years, this relationship has been widely used for market orientation and business performance. On the other hand, with the development of the business intelligence system, banks have been able to use it for optimal development, however, on the basis of this approach, business processes have become more recent, and as a result of being affected by market orientation. In this research, we tried to evaluate the role of intermediary business intelligence on the relationship between market orientation and business performance. What follows from the results of the research is the positive impact of customer orientation and competing on business performance? On this basis, several suggestions are presented to managers: with regard to the positive effect of market orientation on business performance, this research indicates that an organization which seeks to increase innovation must develop market orientation behaviors. Market-oriented behaviors enable banks to better understand and predict competitive situations and customer needs, and, with the rapid development of business intelligence systems, new processes or products gain competitive advantage and, consequently, superior performance. In order to develop market orientation behavior, it is suggested to the bank's managers to develop internal structures and processes for collecting, disseminating and responding to market information. Managers are encouraged to regularly identify the strengths and weaknesses of their competitors in order to improve their business performance. Regularly review the marketing variables (price, product, etc.) of their competitors. It is suggested to the managers of the bank to consider increasing the level of market orientation as an important and priority objective in order to improve their business

performance in most activity. To this end, the model presented in this study, which is confirmed by internal experts. Considering the confirmed relationships in this model, the business of the country should use this relationship in order to improve its performance and increase its market orientation level. In the present environment, the business environment of the country is becoming more competitive, the benefits of this relationship may be more likely to be identified. Bank marketing managers are trying to provide interesting services to their customers. The better the customer mindset of the brand and the benefits it generates, the more profitable the organization achieves, as the benefits are gained through loyal and satisfied customers. Considering the positive impact of customer orientation on business performance, it is recommended that managers consider the needs of their customers in formulating their strategies and regularly evaluate the customers' satisfaction. The system of customer complaints is dynamic, and in this regard, there are a lot of things to consider such as post-sales services. Managers are advised to coordinate personnel, units and other sources of the company in a manner that coordinates together to create value for the customer and, in this way, exploit the business intelligence system in the bank. In order to develop interagency coordination, bank managers can take steps to develop performance by using systems such as quality management system, customer cooperation, focusing on decision making, using interagency working groups and flexibility of job responsibilities. Also according to the results of this research and its constraints, the following are suggested for the next research: This research has been conducted at the level of the EN bank. It is suggested that researchers, by studying and implementing this model on other firms and industries, compare the results with the findings of this study. Investigating the relationship between market orientation and business performance considering the role of mediation of other influential variables. Investigating the relationship between business performance and innovation in old and modern services. Investigating the

Impact of Managers' Attitude and staff Creativity on Private Banking Performance, hence market orientation depends on various factors and the results of studies in different countries have shown factors such as cultural context, political environment, economic conditions, market conditions, type of industry, level of competition and type of customers, managers' attitudes, organizational structure and so on. Market orientation is effective; therefore, it is suggested to researchers to evaluate the effect of these factors on market orientation in different industries in order to obtain a more realistic index.

Research delimitations

Lack of proper response of some staff to questionnaires; The most important limitation of this research is the measurement of variables. In this study, variables such as business performance are not measurable based on objective indicators, and in business practice there is no access to corporate information in this field and for performance variables that have an objective nature (such as sales growth and market share). Due to the lack of comprehensive database and the susceptibility of managers, researchers are not able to access real data.

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