MARKETING | RESEARCH ARTICLE

The role of competitive intelligence and its sub-types on achieving market performance

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Abstract: During recent volatile and competitive environment, competitive intelligence (CI) has emerged and grown into a discipline to help organizations adapt to environmental change. Although existing literature provides a proper insight about the drivers of CI activities, its organization, usage and dissemination within firms, researches on the outcomes of CI activities as to whether these practices collectively have any relationship with performance are rare. Furthermore, there is no investigation on the influence of each subtype of CI on performance that could provide beneficial insight for managers to select their emphasis domains in CI activities and consequently achieving effectiveness and efficiency in marketing efforts. Especially, it could be more crucial in today's tough economic situation in which companies are gripped by widespread cost-cutting and layoffs programs. Thus, this paper analyzes the effect of CI and its subtypes on market performance. The results illustrate that CI positively affects market performance. Among subtypes of CI, competitor intelligence, market intelligence and technological intelligence leave the greatest impact, respectively.

Subjects: Insurance; Business, Management and Accounting; Industry & Industrial Studies

Keywords: competitive intelligence; market intelligence; competitor intelligence; technological intelligence; market performance

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PUBLIC INTEREST STATEMENT

Competitive intelligence (CI) is the process of collecting, processing and analyzing information from and about the internal and external or competitive environment in order to help decision-makers in decision-making and to provide a competitive advantage to the enterprise. The breadth of the range of information is considered in CI activities, and several subtypes have been bought for CI such as market intelligence, competitor intelligence, technological intelligence, strategic and social intelligence, structural–organizational intelligence. This study is the first of its own in that it empirically investigates whether these activities have any impact on market performance or not? The results showed that CI positively affects market performance. Among subtypes of CI, competitor intelligence, market intelligence and technological intelligence leave the greatest impact, respectively.

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1. Introduction

Business environments have been increasingly dynamic due to the increasing complexity of external stakeholders' interests (Dunphy & Benn, 2013) insofar as organizations not adapting themselves to this ever-changing situation would be faded sooner or later. In this regard, competitive intelligence (CI) as a new approach to achieve competitive advantage has grown in prominence since the early 1980s when knowledge-based competition and environmental changes have increased (Fleicher, 2004; Nasri, 2011). The understanding of environmental forces, such as competitors' dynamics and activities, may alert an organization and enhance its responsiveness to the market (Tuan, 2016). As a process, CI is the process of legally and ethically gathering and analyzing information about competitors and the markets in which they operate in order to help your organization make better decisions and reach its goals (www.scip.com). As a product, CI is information about the present and future behavior of competitors, suppliers, customers, technologies, government, market and general business environment (Yap, Rashid, & Sapuan, 2014).

CI includes competitor intelligence as well as intelligence collected on customers, suppliers, technologies, environments, potential business relationships etc. (Gilad, 1989; Sewdass & Du Toit, 2014) and this multidimensional essence of CI leads to several subtypes such as market intelligence, competitor intelligence, technological intelligence (Deschamps & Nayak, 1995), strategic and social intelligence (Rouach & Santi, 2001), structural–organizational intelligence (Zangoueinezhad & Moshabaki, 2009).

Despite the fact that the existing literature provides a good understanding of the drivers of CI activities, their organization, usage and dissemination within firms, we know little in terms of the outcomes of CI activities as to whether these CI practices collectively have any relationship with several aspect of performance (Adidam, Banerjee, & Shukla, 2012). Also, most of them are descriptive in nature and consisted of anecdotal case studies of corporate CI activity where the external validity of these studies is limited (Saayman et al., 2008; Yap et al., 2014). Furthermore, there is no investigation on the influence of each subtype of CI on any aspect of firm's performance through the literature that could provide beneficial insight for managers to select their emphasis domains in CI activities and consequently achieving effectiveness and efficiency in marketing efforts. Moreover, the vast majority of existing research in this regard has been conducted in the context of the developed markets of the USA and Europe (Pirttimäki, 2007; Smith & Kossou, 2008; Subramanian & IsHak, 1998) or emerging markets of India (Adidam et al., 2012) and China (Bao, Tao, & Dai, 1998; Tao & Prescott, 2000) while a few studies have been done in the context of developing countries. Taking this context into consideration could be beneficial to extend the CI literature and its practical outcomes.

Thus, we investigate the overall research questions: Do CI activities have an impact on the market performance of firms in the context of developing country? If the answer is positive, how is this effect? How much is the contribution of each CI's subtype in boosting market performance?

Addressing these gaps in the literature, this paper examines the role of CI and its categorizations (subtypes) on market performance.

2. Theoretical background and hypotheses

2.1. CI

Numerous researchers and practitioners have recently focused on CI due to its role in shaping an organization's strategic decision-making (Rapp, Agnihotri, & Baker, 2011) and performance (Mohsin, Halim, & Ahmad, 2015). Porter's (1980) seminal works on competitive analysis, which focused on tracking-specific competitor behavior and linking competitor analysis to competitive strategy, were the origin of the CI concept. From strategic management view point, the formal exploration process of the strategy formulation has been linked with the CI literature as a basis for gathering and processing the information (Dishman & Calof, 2008). So, CI is vital in shaping the

strategy of a company (Gauzelin & Bentz, 2017). Therefore, it could be concluded that CI is an important aspect of strategic management and marketing in that it serves as the first link in the chain of perceptions and actions that permit an organization to adapt to its environment (Nasri, 2011).

Calof and Skinner (1998) posed the appropriate definition for CI: "actionable recommendations arising from a systematic process involving planning, gathering, analyzing, and disseminating information on the external environment for opportunities, or developments that have the potential to affect a company's or country's competitive situation". Du Toit (2015) provided a definition based on meta-analysis of 338 articles about CI between 1994 and 2014:

> a process or practice that produces and disseminates actionable intelligence by planning, ethically and legally collecting, processing and analyzing information from and about the internal and external or competitive environment in order to help decision-makers in decision-making and to provide a competitive advantage to the enterprise.

The Competitive Intelligence Ning (a discussion forum for CI practitioners) defines CI as "the interpretation of signals from the environment for an organization's decision makers to understand and anticipate industry change" (Competitiveintelligence.ning.com 2016).

CI is considered as a predominant form of executive vicarious search behavior which involves monitoring of competitive environment (Gilad, 1989), gathering information about competitor's moves, strategic action and growth patterns (Porter, 1980), alleviating blind spots and identifying early warnings for threats and opportunities and generating industry benchmarking and stakeholder analyses (Gibbons & Prescott, 1996).

CI involves three major functions: the collection and organization of data, the analysis and interpretation of data and dissemination of intelligence (Morgan & Michael, 2007). CI encompasses the following processes: defining, gathering, analysis and distributing information that are used in decision-making and, therefore, facilitate strategic planning in an organization (Jenster & Søilen, 2013; Gauzelin & Bentz, 2017; Plessis and Gulwa, 2016).

The purposes of CI are to manage and reduce risk and use corporate information strategically (Gatsoris, 2012) to enhance a firm's competitiveness while eroding the competitive advantage of its rivals (Helms, Ettkin, & Morris, 2000). Actionable intelligence information is necessary to handle changes in an industry (Guimares, 2000) and enables executive management teams to make better strategic decisions and actions aimed at enhancing the competitiveness and overall innovation performance of a firm (Ferrier, 2001). Therefore, CI should be understood as the ability of an entity to think, plan, predict and solve the problem in an innovative manner (Popovič, Hackney, Coelho, & Jaklič, 2012).

2.2. The effect of CI on market performance

Amara, Soilen and Vriens (2012, p. 30) noted that CI enables senior managers in companies of all sizes to make informed decisions about everything from marketing, R&D and investing tactics to long-term business strategies. Moreover, CI is considered a value-added concept that outperforms the top of business development, market research and strategic planning.

Arrigo (2016) suggests that the main output of the CI process should be the ability to make good forward-looking decisions in order to be the market leader. Firms that adapt and adjust their strategies based on this continuous flow of information will enhance their competitiveness relative to firms that do not attempt to adjust or adapt in that they could be informed faster about environmental changes. Subramanian and IsHak (1998) found that firms having activities to monitor market trends exhibited great profitability. The positive relationship between CI and performance is empirically tested in the Western developed markets context. However, Tao and

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Prescott (2000) and Adidam et al. (2012) suggest the need to examine the link in other context (e.g. emerging and developing economies) due to the high level of uncertainty involved and differing cultural contexts.

The knowledge resulted from CI activities enables executive management teams to make reliable strategic decisions and actions aimed for enhancing the competitiveness and overall performance of a firm (Ferrier, 2001). A well-informed company is in a better position to "out sell" and "out smart" and "out negotiate" the competition to remain on the leading edge than a company that does not incorporate CI into its planning (Johns & Van Doren, 2010). Autio, Sapienza and Almeida (2000) confirm that the more knowledge-intensive a firm, the faster the firm's growth in sales and market performance. CI is also an organization's mechanism that facilitates transforming competitive information into practical actions, thereby the organization further engages in ambidextrous strategies to stay ahead of its competitors (Tuan, 2016). Hence, it drives the following hypothesis.

H1: CI has a positive and significant effect on market performance.

2.3. CI subtypes (categorizations) and market performance

CI involves the collection of information, not just from competitors but also from customers, suppliers, technologies, environments and potential business relations (Gilad, 1989). This suggests that the focus of CI covers the entire competitive environment, not just the competitors. Therefore, there is a wide range of various definitions which include different subtypes such as competitor intelligence, market intelligence, technological intelligence, strategic and social intelligence, structural–organizational intelligence and so on (Deschamps & Nayak, 1995; Rouach & Santi, 2001; Wright & Calof, 2006; Zangoueinezhad & Moshabaki, 2009).

Deschamps and Nayak (1995) described market intelligence as the intelligence providing road map of current and future trends in customers' needs and preferences, new markets and creative segmentation opportunities, and major shifts in marketing and distribution. With the focus on market intelligence, firm can anticipate its customers' changing needs and respond to them quickly (Zhou, Brown, & Dev, 2009) and also could adjust appealing marketing mix for them. Also, market intelligence generation and dissemination engender competitive advantage and value creation for customer (Narver & Slater, 1990).

Market intelligence was found to be the most critical element required in achieving new product development success in a study of six countries (Waren, Souder, & Berkowitz, 2000) in that one of the most common reasons why new products do not succeed is the failure to meet the needs of customers (Osborne, 2002; Pooltan & Barclay, 1998).

Based on knowledge derived from customers' needs and preferences, market trends and shift in consumption patterns, firms can create products tagged with target market's need that results in superior market performance (Kohli & Jaworski, 1990; Narver & Slater, 1990). Market intelligence backs the marketing process by providing accurate and reliable information about changing needs and wants of current and potential customers (Ciappei & Simoni, 2005) and enables the reduction of marketing expenses which significantly contributes to the overall profitability of the firm and its performance (McGrath & Romeri, 1994).

Further, prior research has illustrated that a high degree of market intelligence gathering and disseminating through an organization leads to improvements in sales and profitability growth, market share, new product success, customer satisfaction and return on assets, compared with other organizations that are not attached to intelligence of market (Kohli & Jaworski, 1990; Narver & Slater, 1990). Hence, it drives the following hypothesis.

H2: Market intelligence has a positive and significant effect on market performance.

Deschamps and Nayak (1995) asserted that competitors' intelligence evaluates the evolution of competitive strategy over time through changes in competitors' structure, new product substitutes and new industry entrants and present and potential and newcomer competitor and their strategies and services. Competitor intelligence focuses on analysis of competitive behavior and head-to-head competition among rivals, in which an organization singles out another as an adversary, tracking that organization's action and engaging in counter-action, or using a more sophisticated approach, anticipating the counter-action of the identified competitor (Zajac & Bazerman, 1991). This competitive behavior may be offensive or defensive (Gilad, 1989), harmonious or belligerent (Couch, 1998).

With providing knowledge of competitors, their marketing strategies, objectives, research activity, their strengths and weaknesses and other information, competitor intelligence helps companies in understanding their position with respect to major competitors in the competitive environment. In effect, competitor intelligence caters a clear understanding of its own and its competitors' strengths and weaknesses that empower firm to pursue a unique and untapped position ending up in superior performance (Day, 1994). Therefore, when you know your competitors and know yourself, it is very likely to win the war in marketplace (Tzu, 1994).

Competitors' data as a sensitive information could trigger or gear up the market competitors to stand on their toes and act as fast as possible before their market will be taking from them. Therefore, any companies in the market settings that is able to identify this gap and make an effective use of it as an opportunity will have a competitive edge over others in the market which will tend to increase sales volume, market share, organizational profitability, productivity and effectiveness (Ade, Akanbi, & Tubosun, 2017).

A superior understanding of competitive actions (i.e. industry structure and positional advantages), competitor's strategies, their investment and capabilities enables a firm to identify and develop capabilities that are necessary for long-term performance. Firms with adequate knowledge of competitors will be able to differentiate the value that they are able to provide customers from that provided by their competitors (Tseng, 2009). Accordingly:

H3: Competitor intelligence has a positive and significant effect on market performance.

Technological intelligence concentrates on assessing the cost/benefit of current and new technologies and forecasts future technological discontinuities (Rouach & Santi, 2001). The quality of the gathered information on the current and future trends of technology holds fundamental influence on the effectiveness of technology management in organizations (Iansiti, 2000), and also complexity and dynamicity of technological developments pose serious setbacks to creating a database of related technological trends. These necessitate tapping into a systematic approach toward monitoring technological changes and developments to identify the existing technological threats and opportunities in the environment (Kerr, Mortara, Phaal, & Probert, 2006).

Tanev and Bailetti (2008) found a strong relationship between technological intelligence gathering and innovation performance. New processes, new methods and technologies assist firms to identify new opportunities in the market and exploit them by providing new products faster than their competitors (Chen, Zhu, & Xie, 2004). Technological intelligence facilitates attaining knowledge of customer preferences through interactive organizational information systems (Paiva & Goncalo, 2008).

Also, new technological solutions can lead a firm to obtain competitive advantage in virtue of technology leadership and offering differentiated products beyond existing ones, which can lead to superior performance in marketplace (Hamel & Prahalad, 1994). Firms with superior technological and infrastructure competencies tend to be more innovative and thus perform at high levels. Most

importantly, utilizing new technologies can change the way intelligence gathered and disseminate through the firm. So, new technologies could even positively affect CI performance. It is clear that applying appropriate technologies could not be provided without precise analyses of technology trend and its cost and benefit. So, it brings on this hypothesis:

H4: Technological intelligence has a positive and significant effect on market performance.

Strategic and social intelligence refers focusing on new regulations, financial and tax news, issues pertained to economic and political, as well as social and human resource affairs. Political and legal issues are determinative factors in business success (Al Khattab, 2006; Lee, Huang, Chang, & Cheng, 2011).

Literature on Resource-based view (RBV) (Barney, 1991; Penrose, 1959) provides a theoretical basis for the human resource management (HRM) practices/performance linkage. Barney (1991) posited that the development of rare, difficult to imitate, unique and valuable resources provides a foundation for competitive advantage of firms; human resources were argued to be most able to possess these four characteristics. Identifying, analyzing and deploying best practices, future trend and efficient methods in HRM including recruitment, retention, motivation and empowerment of human resources lead to effectiveness and efficiency of human resources and consequently firm. Therefore, competitive advantage and superior performance can be obtained if the firm is equipped with proper human resources that could result in terms such as market-share and profitability (Bharadwaj, Varadarajan, & Fahy, 1993; Fahy, 2000).

Regulations in terms of antitrust regulations (e.g. competition, cooperations and price), economic and industry-specific regulations (e.g. prices, output and licensing) and social regulations (e.g. environmental law, occupational health and safety and labor issues) could impose both positive and negative effects on firms. So, by analyzing the information pertained to these fields, firms could exploit its advantage.

Also, knowledge about political issues is closely connected to firms' ability to successfully develop strategies in its network and to minimize the degree of uncertainty to sustain, or even strengthen, their position in the business network (Hilmersson, Sandberg, & Pourmand-Hilmersson, 2015). In Iran's turbulent political climate made up of fundamentalist, reformers and middles that are always in confliction with each other, the role of political intelligence may become more prominent. Thus, the next hypothesis is formulated as follows:

H5: Strategic and social intelligence has a positive and significant effect on market performance.

3. Research methodology

3.1. Data collection
The research used survey to gather data from insurance industry in the context of fast-paced developing economy (Iran). At the time when this research conducted, the industry is made up of 33 companies with 1,115 branches, 41,034 agents, 640 official brokers and 199 loss adjusters which function through competitive market. Unlike international insurance companies which usually focus on specific field of insurance (like marine or life or motor), all of the 33 companies present all field of insurance policies including life and nonlife. Nonlife insurance dominates the insurance market of the country and accounts for 86.5% of the gross insurance premiums generated in the country. The life insurance segment represents the rest of the 13.5% of the insurance premiums underwritten in the country.

Nonlife insurance market of the country is classified into 13 segments which includes motor third party liability, health, motor property damage, liability, fire, accident, engineering, cargo/marine, oil and energy, aviation, credit, hull and others. Iran insurance industry is one of the

thriving markets among middle-east countries. According to Central Insurance Statistical Yearbook of Iran (2016), premiums written grew by 18.17% to 8,927 million USD that make Iran reach the 42nd position in world ranking and this upward trend has dominated during recent years which shows the attractiveness and potential of this industry. These potentials have caused international insurance company to consider Iran as a profitable market and have tempted them to register and obtain license to start business in Iran even though sanctions have not removed completely. On the basis of mentioned potential and highly competitive characteristic of this industry, authors choose the insurance industry to test the hypotheses.

To collect the data, authors contacted to research division of each company to attract its participation in this study. Despite the persistency of authors, four companies denied the request of participation. Branches and agents of the companies were spread through the country but headquarters of all of them were located in the capital of the country. Due to the fact that all of affairs pertained to strategic planning and leadership formulate in headquarters and then communicate to the selling channel (branches and agents), the headquarters' marketing personnel are the most knowledgeable individuals about the information needed to respond to the questionnaire.

Also, heads of the branches are persons involved in sales and marketing affairs in the touch point with the customers and are the executive of plans designed in headquarters. So, they would be the proper source to achieve required information to test the hypotheses. Therefore, they were considered as a population of this study. Stratified random sampling method was utilized to hand in the questionnaires. Data were obtained from sales and marketing directors, heads of braches and personnel involved in implementing marketing strategies in headquarters (e.g. R&D department, strategic planning department etc.) from 33 insurance companies. Unfortunately, six companies denied participating in research; so, the research was conducted through the rest of the companies. To increase response rate, participants' email addresses were taken to send a summary of research results in case of tendency to be informed. Nonetheless, of the 871 distributed questionnaires, 501 questionnaires were received (response rate: 57.5%) from which 495 questionnaires were complete and usable.

To reduce the potential concerns about common method bias, temporal separation and methodological separation are used. These approaches are procedural remedies to identify what the measures of the predictor and criterion variables have in common and eliminate or minimize it through the design of the study. In temporal separation, researchers separate the measurement of the predictor and criterion variables by introducing a time lag between the measurement of the predictor and criterion variables and in methodological separation, researchers utilize different media (computer based vs. paper and pencil) to gather data (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

So, questionnaire copies of independent and moderator variables are distributed and after 1 week, questionnaires pertained to criterion variable in the form of MS-Excel file were sent. These approaches should reduce the respondent's ability to use previous answers to fill in gaps in what is recalled and/or to infer missing details by allowing previously recalled information to leave short-term memory and also, by making prior responses less salient, available, or relevant (Podsakoff et al., 2003).

3.2. Measures

The structured questionnaire developed from existing research is used to gather data and several academic experts reviewed questionnaire for face validity. Respondents were asked to rate indicators on a 5-point Likert-type scale. Market intelligence was measured via the 5-item on Likert-type scale ranging from completely disagree (1) to completely agree (5) developed by Deschamps and Nayak (1995) which captures the extent that the firm gathers and disseminates knowledge of

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customer needs, preferences, future trends in consumer behavior, new market opportunities, new and creative segmentation opportunities, new major shift in marketing and sales.

Competitor intelligence was measured via the 4-item on Likert-type scale ranging from completely disagree (1) to completely agree (5) capturing the extent that the firm gathers and disseminates knowledge of competitors strategies, competitors structure, new product/services substitutes and new industry entrants developed by Deschamps and Nayak (1995). Technological intelligence was measure by 4-item on Likert-type scale ranging from completely disagree (1) to completely agree (5) developed by Deschamps and Nayak (1995) which captures the extent that the firm gathers and disseminates knowledge of current and future technologies, its cost/benefit assessment and future technological discontinuities.

This study measures strategic and social intelligence via 5-items on Likert-type scale ranging from completely disagree (1) to completely agree (5) developed by Rouach and Santi (2001). The indicator variables capture the extent that firm gathers and disseminates the intelligence about current and future regulations, financial and taxes rules, economic issues and social matters that are related to company activities, human resource affairs. Environmental dynamism was measured by 5-item on Likert-type scale ranging from completely disagree (1) to completely agree (5) developed by Yang and Li (2011) which captures the perceived speed and magnitude of change and uncertainty and the variety of new product introductions in the industry. Finally, market performance is measured by 4-items on Likert-type scale ranging from completely much worse (1) to much better (5) asking the informants to evaluate their company sales growth, market share, profitability and customer retention rate, relative to major competitors in the past two years. Questions pertained to each dimensions and their resources are exerted in Table 1.

4. Results

4.1. Analysis

Data were analyzed through SPSS 20 and LISREL 8.80. As a threshold issue, to assess the factorability of the data and ensure adequacy of sampling, Bartlett's test of sphericity and the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy were applied. The Bartlett's test of sphericity should be significant ($p < 0.05$) for the factor analysis to be considered appropriate. Furthermore, the minimum suggested KMO index (which ranges from 0 to 1) for a good factor analysis is 0.6 (Tabachnick & Fidell, 2001). In this study, Bartlett's test of sphericity was significant ($p < 0.000$) and initial KMO index was measured to be 0.89 which indicates sample adequacy and suitability of the sample for confirmatory factor analysis (CFA).

In order to estimate validity, construct validity as well as convergent and divergent validity were used and to investigate the reliability of research's constructs, composite reliability (CR) was employed. Construct validity shows whether selected indicators have the required accuracy to measure their own constructs or not. To this end, CFA is used. If the factor loading of each question with its own construct has significant *t*-value at 0.05 level of significance (*t*-value must be more than 1.64) and the factor loading of each indicator with its own construct be higher than 0.50, the indicator has the required accuracy to measure latent construct. After implementation of the model, all questions were significant and the factor loadings pertained to all questions were more than the minimum threshold value of 0.50. The factor loadings related to each question are presented in Table 1.

Furthermore, divergent validity was tested through analysis of variance shared between pairs of latent constructs which was raised by Fornell and Larcker (1981). As can be deduced from Table 2, the correlation between each pair of constructs does not exceed the squared variance extracted for each construct (which is on the main diagonal of the correlation matrix), so research's constructs have divergent validity.

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Table 1. Measurement items and factor loadings

Construct	Dimension	Measures	Factor loading	t-Value
Competitive intelligence (Deschamps & Nayak, 1995; Rouach & Santi, 2001)	Market intelligence	The intelligence pertained to current trends in customer needs and preferences are gathered and disseminated through the company	0.77	13.41
		The intelligence pertained to future trends in customer needs and preferences are gathered and disseminated through the company	0.68	11.63
		Our company collects, analyzes, purifies and shares the information pertained to new market opportunities	0.87	16.58
		Our company collects, analyzes and disseminates the intelligence pertained to new and creative segmentation opportunities	0.90	11.31
		The intelligence pertained to new major shift in marketing and sales are collected and disseminated through our company	0.85	17.32
	Competitor intelligence	Competitors' strategies are continuously monitored and information about their competitive activities are disseminated through the company	0.85	13.54
		The intelligence pertained to competitors structure are collected and disseminated through the company	0.83	16.01
		Our company gathers, analyzes and disseminates the information pertained to new product/services substitutes	0.68	11.79
		The information related to new industry entrants are collected and disseminated through our company	0.76	13.94
	Technological intelligence	Our company collects, analyzes and disseminates the intelligence pertained to current technologies and assesses its cost/benefit	0.62	9.84
		Our company collects, analyzes and disseminates the intelligence pertained to future technologies and assesses its cost/benefit	0.88	16.74
		The intelligence pertained to future technological discontinuities are collected and shared through our company	0.75	14.96
	Strategic and social intelligence	In our company, the intelligence about current and future regulations that are related to company activities are continuously collected and disseminated	0.64	10.37
		The information about financial and taxes rules that are related to company activities are continuously gathered and shared through our company	0.81	16.48
		Generates and disseminates intelligence about economic issues	0.79	15.60
		Our company collects, analyzes and disseminates the information about social matters that are pertained to company activities	0.72	12.34
		Our company collects, analyzes and disseminates the information about human resource matters that are related to company activities	0.79	12.84
Market performance	(O'cass and Weerawardena, 2010)	Please evaluate your company's sales growth, over the past 2 years, compared to your closest competitors	0.80	13.41
		Please evaluate your company's market share, over the past 2 years, compared to your closest competitors	0.88	17.54
		Please evaluate your company's customer retention, over the past 2 years, compared to your closest competitors	0.72	9.79
		Please evaluate your company's profitability, over the past 2 years, compared to your closest competitors	0.69	12.04

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Table 2. Measure correlations, means, standard deviations (SD), composite reliability and AVE

	Mean	SD	CR	AVE	Market intelligence	Competitor intelligence	Technological intelligence	Strategic and social intelligence	Brand performance
Threshold	–	–	≥0.7	≥0.5					
Market intelligence	4.20	1.09	0.91	0.67	**0.82**				
Competitor intelligence	3.90	0.76	0.86	0.61	0.49	**0.78**			
Technological intelligence	3.54	0.68	0.80	0.57	0.38	0.44	**0.75**		
Strategic and social intelligence	3.38	0.98	0.87	0.57	0.35	0.40	0.27	**0.75**	
Market performance	4.01	1.09	0.86	0.60	0.76	0.73	0.67	0.45	**0.77**

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Table 3. Path analysis results					
Hypotheses	**Analyzed path**	**Path coefficient (*β*)**	**Moderation impact**	***t*-Value**	**Result**
H1	→ Competitive intelligence market performance	0.55	–	11.39	Supported
H2	→ Market intelligence market performance	0.38	–	5.18	Supported
H3	→ competitor intelligence market performance	0.52	–	6.21	Supported
H4	→ Technological intelligence market performance	0.32	–	4.97	Supported
H5	→ Strategic and social intelligence market performance	0.14		1.13	Not supported

χ^2/df = 2.87, *p*-value = 0.009, RMR = 0.068, GFI = 1.05, IFI = 1.12, NFI = 1.24, NNFI = 0.94, CFI = 0.97, RMSEA = 0.069.
Notes: Paths are significant at the level of 0.05.

The reliability of model's dimensions was measured by CR. As Table 2 demonstrates, CR values are higher than the minimum threshold value, 0.70; thus, model dimensions have adequate reliability (Hair, Black, Babin, Anderson, & Tatham, 2010). According to the descriptive statistic presented in Table 2, the relatively intermediate mean of CI on all categorizations indicates the mediocre level of CI among Iranian insurance companies. Also, the upper intermediate mean of environmental dynamism shows the high level of competition in Iran insurance industry.

4.2. Hypotheses testing
Path analysis was used for testing hypotheses. Path analysis is a sort of multivariable regression which provides the possibility of casual relationship between two or more variables. The standardized path regression coefficients that indicate the direct influences of the predictor upon the predicted latent constructs and associated *t*-values of the paths of the research model are shown in Table 3. As the hypotheses are one-tailed, to reject a null hypothesis and accept the research hypothesis at the 0.05 level, the observed *t*-value should be greater than 1.645 and 0.01 at 1.96; otherwise, it is not supported.

Based on results, hypothesis pertained to the effect of market intelligence on market performance was supported (*ß* = 0.38, *t* = 5.18). Further, the results of path analysis indicated that competitor intelligence could affect market performance (*ß* = 0.52, *t* = 6.21). Moreover, H4 pertained to the influence of technological intelligence on market performance was accepted (*ß* = 0.29, *t* = 4.97) but the impact of strategic and social intelligence on market performance was not supported (*ß* = 0.14, *t* = 1.13). Finally, as to the main hypothesis of research, CI leaves influence on market performance (*ß* = 0.67, *t* = 11.39).

Also, the overall model fit measures were used to evaluate the fit of the structural model. In model testing through SEM, three groups of fitting indexes have identified, namely absolute fit indices, comparative fit indices and parsimonious fit indices. As an absolute fit indices, χ^2 test, root mean square residual and goodness-of-fit index were used. The incremental fit index, normed fit index, non-normed fit index and comparative fit index were utilized as comparative fit indices. Ultimately, as to the parsimonious indices, root mean square error of approximation was applied. Model fit measures reported show that structural model fits the data well.

5. Conclusion and implications

Extant literature on CI provides a sound basis for understanding the drivers of CI, how organizations structure the CI process as well as use the CI activities, but researches on the outcomes of CI activities as to whether these practices collectively have any relationship with performance are rare. Also, most of the literature addressing this issue has been either anecdotal and/or case-based research (Pirttimäki, 2007; Smith & Kossou, 2008; Subramanian & IsHak, 1998). But empirical researches on the outcome of CI are limited and need to extend.

To fill these gaps in the literature, this study aims for empirically investigating whether CI activities have any impact on the market performance of firms in the context of developing country? How much is the contribution of each CI's subtype in affecting market performance? And how are these effects? To this end, a survey study was administrated to examine the relationship between CI and market performance. The study findings confirmed significant and positive impact of implementation of CI activities on performance of companies in marketplace.

On the other hand, recent economic recession has resulted in failure, bankruptcy and widespread layoffs of companies across the world. So, companies are seeking the ways in which they could attain maximum outcome through capitalizing on minimum input. Also, CI costs vary with the extent of information sought, then the firm trades off the benefits to seeking information that is maximally useful to itself with the lower costs of acquiring information that is useful to the firm (Bagnoli & Watts, 2015). Thus, according to current situation, it is vitally important for firms to know in which domain they must concentrate their CI's activities.

Our findings provide valuable insights for marketers and managers in the today's competitive business environment. It could be concluded from current study that firms may achieve superior market performance via exploiting CI activities. Further, results indicated that among CI categories, competitor intelligence leaves the most impact on market performance relative to other categories. After competitor intelligence, market intelligence has the greatest influence on market performance and finally, technological intelligence has the lowest impact on market performance. Also, unlike the research literature, the relationship between strategic and social intelligence and market performance was not significant. So, it could be concluded that strategic and social intelligence has no effect on market performance in this industry. Therefore, putting these issues in consideration could assist companies to perform more efficient in market place, especially, in the context of developing countries. Thus, this study should contribute managers in having a more informed understanding and decision of CI activities.

Also, in this study, CI was conceptualized with its four subtypes in this study including market intelligence, competitor intelligence, technological intelligence and strategic and social intelligence. With studying effect's rate of each subtype on market performance, this research provides insight for practitioners and academics that which subtype of CI could generate more outcomes for firm?

Prior researches (Trim & Lee, 2008) demonstrate that gathering intelligence is necessary for strategic planning. It helps and directs organizations in spotting new opportunities or averts disasters as well as empowers the firm in monitoring its own development cycles (Porter, 1980; Rouach & Santi, 2001). But while there is anecdotal evidence regarding the relationship between CI activities and performance, empirical researches linking the effect of CI activities on firms' performance are scarce (Hughes, 2005).

Finally, this study analyzes the role of each categorization of CI on boosting market performance that could cater insight about the priority of each dimension in this regard. It is vital importance according to current economic recession in which companies are wrestled down with cutting their cost and performing in most efficient state. So, they must know which subtype has the greater impact on the performance.

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