
CASTING A RESOURCE-BASED VIEW ON INTANGIBLE ASSETS AND EXPORT BEHAVIOUR

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Abstract. Prosperous companies in the 21st century have come to know the necessity of intangible assets as an important factor to achieve sustainable competitive advantage and constant presence in the international markets. Hence, the purpose of this paper is to examine intangible assets and evaluate its relationship with export behaviour in terms of export intensity (Export-Sales Ratio) and export type (Permanent, Occasional & Periodical). The population under study includes all export firms during 2002 until 2010 in Yazd province, Iran. Research data were collected by questionnaire and in order to answer the research questions and testing hypotheses, MCDM techniques (i.e. AHP & TOPSIS) and statistical analysis (i.e. ANOVA) were utilized. According to the research results, human capital, relational capital, technological capital, corporate reputation, and structural capital placed as the first to the fifth significant factors respectively. Findings revealed that there is a significant difference between the permanent and occasional presence in the international markets regarding intangible assets; as the mean of intangible assets in the firms with permanent export is higher than the mean of intangible assets in the firms with occasional export. However, there is no significant difference between intangible assets and the export intensity.

Keywords: export behaviour, intangible assets, resource-based view, sustainable competitive advantage.

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1. Introduction

The competition resulted from globalization and rapid technological development has made firms change their strategy to be able to survive and grow in the market in the 21st century. International competitiveness is defined as the ability of firms to supply commodity and services with potential competitive prices with at least covering the opportunity cost of utilized resources (Freebairn 1986). Porter (1985) defines competitive advantage as competitive strategy, which leads to produce the products that are not producible by the competitors. Competitive advantage including various kinds of competitive strategies like cost leadership, differentiation and concentration in order to achieve and sustain competitive advantage in the long-term (Porter 1985). Achieving competitive advantage is possible when the current strategy of the firm is value adding in a way that present and future competitors cannot follow it (Barney 1991).

According to Wernerfelt (1984), firms could be analysed in terms of products and resources aspects (Wernerfelt 1984). The first aspect is usually discussed in economic theories; however, the latest implies some of the competitive advantages obtained from strategic resources (Wernerfelt 1984; Barney 1991). The firm's assets consist of tangible and intangible assets, which are used by the firm in a limited period to produce valuable commodities and services for its customers (Wheelen, Hunger 2000). Competitive advantage in assets and resources could create competitive advantage in the market (Hoffman 2000). However, not all of the resources and assets can create sustainable competitive advantage (Barney 1991). Resource Based View (RBV) appraises some of the strategic traits of resources as competitive advantage to earn higher profit (Wernerfelt 1984; Barney 2001). These resources should be rare, valuable, inimitable and non-substitutable (Wernerfelt 1984; Barney 2001).

According to RBV, a firm can succeed not only by owning tangible assets, but also by proper utilization of intangible assets, which help them achieve sustainable competitive advantage in the long-term (Barney 2001; Bontis *et al.* 2002; Wade, Hulland 2004). It is evident that there is a direct relation between intangible assets and its economic advantages but since the valuation of intangible assets is not easily possible, determining its amount to achieve competitive advantage and the evaluation of external and internal factors influencing its measurements has become an important issue among researchers (Kozlenkova *et al.* 2013; Kajanová 2011). The definition of intangible assets refers to recognition of the characteristics and traits that are of strategic importance; organization's intangible assets are the subset of the firm's strategic resources portfolio (Wade, Hulland 2004).

By creating competitive ability, intangible assets perform as an incentive for entering the international markets and an advantage to develop successful international operations. This issue is more important in export firms which operate in a more competitive and ambiguous environment with lots of uncertainties than the local firms.

Hence, the present study examined the significance and ranking of the intangible assets by MCDM techniques, and then the relationship between intangible assets and export behaviour in terms of export intensity and export type was investigated.

2. Previous researches

2.1. Intellectual capital

Nowadays, intellectual capital is known as a valuable tool for organizations and has drawn a lot of attention of managers and researchers as it has proven to add value to the firms (Levickaitė 2011). Increasing attention toward development of this issue is due to the growth of macro-economic phenomenon and economic traits of intangible assets. As Hoffmann and his colleagues indicated in their research, higher access to the strategic resources leads to achieving higher competitive levels through RBV while the firms outside this area are deprived of such resources (Hoffmann *et al.* 2011). Based on Tovstiga and Tulugurova's study (2007) the managers' perception of intellectual capital has a significant and positive impact on companies' performance. This impact is particularly due to structural and human capital as the most important factors under the RVB framework (Nath *et al.* 2010; Tovstiga, Tulugurova 2007).

According to the literature, intellectual capital can be studied from three aspects including human capital, structural capital and relational capital. Human capital which is known also as human oriented asset (Brooking 1996), Individual capabilities (Sveiby 1997) and learning and development (Kaplan, Norton 1996), is in fact a unique potential of hidden knowledge and collective capabilities in the organization (Bontis 1999, 2001) which exists in the form of skills, experience, capability and knowledge of the employees (Edvinsson, Malone 1997). Davenport and Prusak (1998) defined human capital as intangible capabilities of resources, the efforts made, and time spent on the operations by employees (Davenport, Prusak 1998). Human capital is actually a composite of job experiences and general knowledge of employees like leadership abilities, level of risk taking and ability to resolve the problems.

Second aspect of intellectual capital is structural capital that is known as organizational asset and process asset. Structural capital includes all the non-human knowledge such as databases, organizational chart, process implementation instructions, strategies and administrative plans (Roos, Roos 1997). Structural capital should be considered as creation and innovation, operational processes, cultural capital, reconstructions, patents and educational activities (Roos, Roos 1997; Roos *et al.* 1997). This capital is focused on system installation, structure and current trend of business (Chen *et al.* 2004), and can be classified into organizational culture, organizational learning, functional processes and information systems. Firms can identify the customer priorities through structural capital and by using information systems (Paiva, Goncalo 2008; Lee, Chang 2007). This capital is one of the main principles in creating learning organizations. Even when employees have the sufficient and proper capabilities, a weak organizational structure that is unable to create value from these skills can hamper the achievement of desired performance.

The last aspect of intellectual capital indicates the relationship between the firm and the world outside. Relational capital consists of relationship with customers, shareholders, suppliers, competitors, government and society. However, one of the most important characteristics

of relational capital is relationship with customers but it is not considered as the only effective factor. In fact, relational capital is a reflection of organization's activities and many researchers consider it as a strategic capital (Fong Reynoso, Ocampo Figueroa 2010).

Description of intellectual capital in a particular framework seems to be difficult and impossible, hence, its' measurement is very hard. Various researchers (e.g. Johanson *et al.* 1999; Miller *et al.* 1999; Bontis, Fitz-Enz 2002; Bozbura 2004) have studied several criteria of intellectual capital. Table 1 represents the most important criteria, based on Bozbura's study (Bozbura 2004).

Table 1. Intellectual capital criteria (Source: Bozbura 2004)

Human Capital Criteria	Structural Capital Criteria	Relational Capital Criteria
<ul style="list-style-type: none"> • Education hour per employee and its cost • Higher education rate of employee (master and doctorate) • Turnover rate • The experience of managers in the firm (year) • Higher skill and ability level • Leadership ability of management level • Successes of work results • Determining their own targets • Being intelligent and creative • Being “the best” in their subject • Satisfaction level • Having ability in their subject • Perform their best • Sharing and reporting knowledge • To be well-grounded about strategies • Risk-taking • Eagerness to source sharing • Freely expressing the opinions • Creating results by using knowledge • The effectiveness of developing employee • Eagerness to share knowledge • The strategy of promoting interoperate relation • Supporting new ideas • Training strategy • Human resource selection strategy • Effective wage system • Succession planning 	<ul style="list-style-type: none"> • The cost of realizing work • The time of realizing work • Cost per revenue • Increase revenue per employee • Revenue per employee • Implement new ideas • Supports development of ideas • Leader in developing new ideas and product • Increase productivity • Quick access to information • Procedures support innovation • The existence of a bureaucratic system • Culture is supportive • Access number of database per second • Access to information without any limitation • Determining quality targets • MIS contains all knowledge • Strategic definition • Number of patents • Investment in research and development • R&D investment • Technology investment • Updating the database 	<ul style="list-style-type: none"> • Customer satisfaction • Time resolve the problem • The extent of the relation • Value added service • Customer loyalty • Preference in competition • Collecting data for customer request • Interoperate dispersal of customer feedback • Emphasizing customer request • To draw benefit from customer request for the customer satisfaction • Market share improving • Leadership of market share • Having market-oriented processes • Market and customers to be understood by employee • Having a good image in the market • To own the leader brands in the market • Participating social activities that are not sponsored • Being the sponsor for the social activities • Analysis of rivals • Supplier relations • Environment consciousness • Relations with shareholders

2.2. Corporate reputation

Innovation in achieving competitive advantage depends on the amount of intangible assets (Flatt, Kowalczyk 2000) and corporate reputation is one of the most important one among these assets (Low, Kalafut 2002). Fombrun (1996) defined the reputation as the people's perception of a service provider (Fombrun 1996). Therefore, reputation represents the overall assessment of stakeholders over the time and will affect product price and the profit gained due to frequent purchases (Greyser 1995; Fombrun, Van Riel 1997). Previous research findings indicate that the combination of social and economic benefits obtained from reputation is considered as competitive advantage and is one of the most important assets of the organization (Fombrun 1996; Hall 1993). Hence, according to Budworth (1989) it is rational to consider the reputation as an intangible asset (Budworth 1989). Reputation could be regarded as an investment (Kotha *et al.* 2001) and because of its intangible nature, cannot be traded easily in the market (Hunt, Morgan 1995; Caruana 1997); so it is a resource that can create competitive advantage and superior financial productivity against competitors (Hunt, Morgan 1995; Bennett, Kottasz 2000).

Technology is an intangible asset with high dependency on knowledge, which is mostly implicit knowledge; therefore encoding it is associated with many challenges. High degree of specificity of these assets for the owner organizations made them valuable and prevents from transmission of these assets to outside the organization. Also the complicated nature of these assets made the realization of their origin very hard (Kogut, Zander 1993). All these, made them valuable, rare and hard to imitate. Therefore, technological capital possesses all the conditions to create and sustain competitive advantage and is a key factor to develop and globalize the organization. These assets play their role in achieving competitive advantage by reducing the costs by means of optimization and improvement of processes and on the other hand by creating distinction by means of innovation in products and taking into account customer needs or improving product's quality. Quality and distinction of products can be considered as key elements in achieving success in export (Styles, Ambler 1994).

In fact, all of the positive effects of reputation results from the view and perception of individuals and emerges from subsequent decisions and behaviours of stakeholders (Bromley 2002; Fombrun *et al.* 2000). A strong reputation can attract and maintain employees, customers and suppliers. Competition in the market could be also affected by reputation. If a firm own a weak or non-competitive reputation compared to its competitors, the possibility of being exposed to competitive attacks is more than the well-known firms, which quickly respond to any challenge.

There are some general methods to examine corporate reputation. A well-known method is Fortune magazine method, which regularly evaluates the superior firms in each industry by using the comment of executive managers and analysts. This Method considering the criteria such as innovation, people management, use of corporate assets, social responsibility, quality of management, financial soundness, long-term investment, quality of products/services, global competitiveness (Barnett, Pollock 2012).

However, the characteristics of individuals who hold superior power in the firm, can affect the reputation (Mahon, Wartick 2003), accordingly popular firms have famous managers. These managers perform functions that lead to reputation (like advertisement, financial support, etc). They also rely on profit making records of firm and consider it as firm's credibility to improve the reputation (Fombrun 1996).

2.3. Technological capital

Research and development are the most essential factors in creating and developing technology, but in the wealth-generating path, exploiting or commercialization of technology is a more important factor. In other words, Technological advantage will occur by the time its results are delivered to customers. Innovation has a broader concept than introducing new technological products and it includes any novelty originated from organization, market or technology in the value chain (Kim, Mauborgne 1997). Organizations with high degree of innovation have the opportunity to develop their markets in order to gain more profit on investment (Teece 1986).

While technological advantage is necessary in many industries to sustain competitiveness, converting technological advantage into competitive advantage calls for a set of prerequisites. In addition to creating technology through research and endogenous development, managing and organizing the technological transfer, as one of the influential procedures to achieve required technology has become an inevitable necessity for development of technology.

Various studies demonstrate that firm's ability in adjusting the products as per customer needs while entering export markets is as an important factor (Cavusgil, Zou 1994). Furthermore, in today's business world, globalization, market sharing and order manufacturing of products considering customer needs, have improved competitiveness in the form of distinction. Therefore organizations with superior technological resources, have a better opportunity to compete not only in domestic markets but also in the international markets.

2.4. Export behaviour

From strategic point of view, intangible assets are the most important factor in creating competitive advantage and are introduced as the prosperity factor in the business. In addition to providing more competitiveness in international level, strategic resources motivate firms to enter foreign markets and are considered as key elements in the development of firm's overseas operations. Overall, these resources are potential factors to achieve maximum competitiveness; hence, the key role of such resources is signified in internationalization process of organizations in general and in export behaviour in particular.

In recent years, study of effective variables on export behaviour has been a controversial issue among researchers and fruitful researches have been done in this area. Rodrigue and Rodriguez (2005) studied the impact of technological resources on export

behaviour of Spanish firms in the form of export decision and export intensity variables. According to their findings, product innovation, patents and process innovation have a positive and significant impact on these variables in contrary to research and development expenses that have no significant impact on the aforementioned variables (Rodrigue, Rodriguez 2005).

According to Sterlacchini (1999) studies, firm's size has a positive and significant impact on likelihood of being an exporter while the sub-contract nature of firm has a negative impact on it; also innovation activities, product design costs, and engineering and pre-production developments have a positive and significant impact on the export and total sales ratio (Sterlacchini 1999). Lal (2004) believes that exploiting advanced tools and active labour in organizations are the fundamental and effective factors on export operations (Lal 2004). Basile (2001) studies indicate the great impact of innovative capabilities on firm's competitive status in general and on the probability of being an exporter and export intensity in particular (Basile 2001).

For further considerations, we proposed the following hypotheses and the conceptual model of the study as in figure 1.

Hypothesis 1: There is no significant difference between the mean of firm's intangible assets in terms of quality of presence in the international markets.

Hypothesis 2: There is no significant difference between the mean of intangible assets in terms of export intensity in firms.

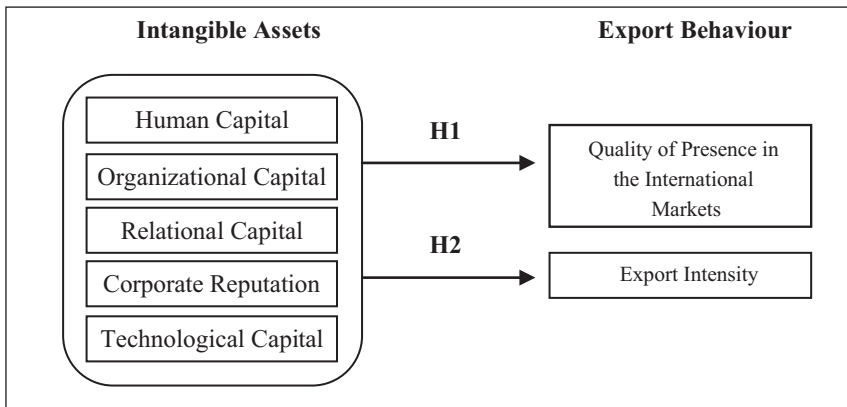


Fig. 1. Conceptual framework of the study (Source: Research initiative)

3. Methods

3.1. Research type & data collection

Present study is explanatory in nature and applied a survey method of data collection. Data collection is done using three questionnaires, which are prepared after studying credible scientific resources. First questionnaire is developed in six sections, considering

desired variables and by performing some adjustments on indices achieved by experts' opinions. The first section includes information and study of company profile (e.g. export percentage and export types). The remaining five sections cover the assessment of intangible assets with respect to human capital, structural capital, relational capital, corporate reputation and technological capital in the form of 30 questions using the 5-point Likert scale. In order to evaluate the content validity, the questionnaires were provided to some experts and lecturers in the field of management and marketing, then final modifications was applied based on their provided comments. Considering that the calculated Cronbach's alpha is higher than minimum acceptable amount (according to Gliem, Gliem (2003)), therefore the reliability of the questionnaire dimensions is verified (Table 2).

Second questionnaire is designed to achieve the weight for each intangible asset, in the form of paired comparisons using analytic hierarchy process technique (AHP). The third questionnaire is developed in order to rank the variables using TOPSIS technique and eventually these two questionnaires were delivered to 4 experts in Yazd chamber of commerce, 3 managers and experts in companies under study and 4 university lecturers.

Table 2. Cronbach's Alpha coefficient of questionnaire (Source: Research finding)

Questionnaire's dimensions	Cronbach's Alpha
Overall	0.913
Human Capital	0.660
Structural Capital	0.846
Relational Capital	0.737
Corporate Reputation	0.812
Technological Capital	0.838

3.2. Population & sampling

Statistical population examined in this study includes all exporter companies during 2002 until 2010 in Yazd province, Iran. Hence, the list of exporter companies was obtained from Yazd chamber of commerce and sampling and data collection from target community was done. According to acquired information, the number of export firms during the nine-year period was about 500 cases from which 300 were active and others were closed down for some reasons. In order to achieve the sample size, initial questionnaires distributed and population parameters estimated. Considering the sample size of 43 according to WoR sampling, 60 questionnaires distributed among managers and experts in export firms, from which 33 questionnaires returned that represents 55% of response rate.

3.3. Data analysis techniques

In order to data analysis, SPSS, Expert Choice and Excel software packages were used. As it is revealed from Kolmogorov-Smirnov test results, all dimensions of intangible assets follows normal distribution (Table 3).

Table 3. Results of Kolmogorov-Smirnov test (Source: Research finding)

Dimensions		Human Capital	Structural Capital	Relational Capital	Corporate Reputation	Technological Capital
<i>N</i>		33	33	33	33	33
<i>Normal parameters</i>	<i>Mean</i>	3.439	3.368	3.558	3.388	3.626
	<i>Standard deviation</i>	0.508	0.762	0.533	0.743	0.865
<i>Most</i>	<i>Absolute</i>	0.093	0.092	0.153	0.13	0.213
<i>Extreme</i>	<i>Positive</i>	0.089	0.083	0.076	0.106	0.09
<i>Differences</i>	<i>Negative</i>	-0.093	-0.092	-0.153	-0.13	-0.213
<i>Kolmogorov- Smirnov Z</i>		0.533	0.531	0.88	0.749	1.221
<i>Asymp. Sig (2-tailed)</i>		0.938	0.94	0.421	0.628	0.101

To achieve the weight of each intangible asset, AHP technique used and finally each dimension ranked by TOPSIS method. AHP is one of the most efficient Multi Criteria Decision Making (MCDM) techniques, which introduced by Thomas L. Saaty in 1970. This technique is based on paired comparisons and allows to evaluate different scenarios.

This method providing hierarchy decision tree that shows indices and decision alternatives. Then a series of paired comparison is performed which identifies weight of each factor in line with other alternatives, comparative tables are prepared from bottom to top based on the hierarchy tree. In other words, alternatives should be compared by pair wise comparison at different levels considering each factor. Finally, this logic incorporates the matrixes obtained from paired comparisons in such a way that optimum decision comes out (Saaty 1980). Thus, four steps including developing hierarchical decision making tree, calculating weight, calculating consistency rate and choosing the best alternative can describe AHP.

Accordingly, different dimension of intangible assets ranking by using TOPSIS technique. Hwang and Yoon (1981) introduced this technique for the first time. Basic logic of this technique is to define negative and positive ideals. Positive ideal is a solution that maximizes desirable indices and minimizes undesirable indices. Similarly, the negative ideal maximizes undesirable indices and minimizes desirable indices. Optimum strategy is the one that is closest to the positive ideal and farthest from the negative ideal. Rating the solutions in the TOPSIS technique is done based on their relative similarity to ideal solution (Hwang, Yoon 1981).

4. Results

Collecting the questionnaires and review of obtained data, revealed that 22 of managers had a bachelor or Master's degree (66.6%) and the rest of them had advanced diploma. Age wise study of the managers shown that 21 of them (63.6%) were 46 to 60 years old, considering that, 12 managers (36.4%) had 21 to 30 years of work experience. Among

33 examined companies, 93.9% are private ownership, 72.7% had more than 10 years of activity and 27.3% had between 11 to 50 employee. Export-sales ratio in 15 companies (45.4%) was less than 10 percent of total sales and in one company (3%) it was between 51 to 75 percent. In addition, 17 companies (51.1%) had permanent exports, 10 companies (30.3%) had periodical exports and 6 companies (18.2%) had occasional exports.

4.1. Assessing and ranking the intangible assets

AHP technique was used to weight and assess the importance of intangible assets. For this purpose, the desired data was extracted through AHP questionnaires based on the priority level of each factor and considering paired comparisons performed. According to the results obtained from Expert Choice 2000 software, human capital, relational capital, technological capital, corporate reputation and structural capital are the most important assets, respectively. It should be mentioned that inconsistency rate of paired comparisons regarding individual comments is 0.03 which demonstrates an acceptable level of inconsistency ($Inco \leq 0.1$) among the respondents. Table 4 represents the Importance weight of each intangible asset.

Table 4. Importance weight of intangible assets (Source: Research finding)

No.	Intangible assets	Weight
1	Human Capital	0.347
2	Structural Capital	0.096
3	Relational Capital	0.259
4	Corporate Reputation	0.117
5	Technologic Capital	0.181

After considering the weight of intangible assets by AHP technique, TOPSIS method was used in order to ranking them. According to the results and relative closeness coefficient of indices to the ideal solution, human capital ranked first and then relational and structural capital ranked second and third respectively (Table 5).

Table 5. Results of ranking the intangible assets (Source: Research finding)

Final Ranking	Intangible Assets	di+ (Distance from Positive Ideal)	di- (Distance from Negative Ideal)	CCi (Closeness Coefficient)
1	Human Capital	0.006	0.091	0.942
2	Relational Capital	0.043	0.108	0.713
3	Technological Capital	0.060	0.115	0.658
4	Corporate Reputation	0.082	0.109	0.569
5	Structural Capital	0.091	0.091	0.499

4.2. Review of the firms’ export behaviour

According to prior studies and after reviewing the experts’ comments from chamber of commerce, export behaviour of the firms was studied considering two variables, which are quality of presence in the market and export-sales ratio. According to the quality of presence, active companies are divided into 3 categories including permanent, periodical and occasional. The second variable i.e. export-sales ratio is divided into 4 categories. The first category belongs to firms with export less than 10 percent, second one includes firms with export between 11 to 25 percent, third one includes firms with export between 26 and 50 percent and finally fourth one represents firms with export more than 50 percent. In the followings, the relationship between above mentioned variables and intangible assets is studied.

4.2.1. Investigating the relationship between organization’s intangible assets and quality of presence in the international markets

In order to examine the relationship between organization’s intangible assets and export behaviour in terms of presence in the market, Analysis of Variance (ANOVA) test was used. In this test, *H0* indicates that there is no significant difference between the mean of organization’s intangible assets regarding quality of presence in the international markets, and *H1* indicates that at least one of the studied mean pairs are not equal.

Table 6. Relationship between intangible assets and quality of presence in the international markets (Source: Research finding)

F	Sig	Test Result
4.057	0.031	Rejected

According to the results, there is a significant difference between intangible assets mean in terms of quality of presence in the international markets (Table 6). In order to find out the difference between means of each export type, Tukey test were used. In this test, *H0* indicates that there is no significant difference between the means and *H1* indicates the opposite.

Table 7. Comparison of intangible assets situation in terms of quality of presence in the international markets (Source: Research finding)

I	J	I-J	Sig	Test Result	Upper Limit	Lower Limit
Permanent	Periodical	0.346	0.156	Rejected	0.799	-0.106
Permanent	Occasional	0.592	0.044	Accepted	1.171	0.139
Periodical	Occasional	0.246	0.593	Rejected	0.871	-0.379

According to the information obtained from this test, a significant difference between permanent and occasional presence in the international markets and the level of intangible assets was observed. Considering that the upper and lower limits obtained in this comparison are positive, therefore mean of intangible assets for the firms with

permanent export is higher than that of firms with occasional exports (Table 7). Thus regarding given information, we are able to rank each type of export firms by mean of intangible assets, using Tukey test.

Table 8. Ranking the export types in terms of intangible assets (Source: Research finding)

Export Type	Categorizing in terms of mean	
	1	2
Permanent	3.707	
Periodical	3.361	3.361
Occasional		3.115
Sig	0.284	0.52

Based on the results, permanent presence in export market with the mean of 3.707 and periodical presence with the mean of 3.361 are placed in the first group and also periodical presence along with occasional presence with the mean of 3.115 are placed in the second group (Table 8). It is worth noting that in case of the firms with periodical presence in export markets, since its mean is located between that of firms with permanent and occasional presence, in spite of having higher mean of intangible assets rather than firms with occasional presence, it is located in both groups in mentioned category.

4.2.2. Investigating the relationship between organization’s intangible assets and export intensity

In order to study the relationship between the level of intangible assets in organization and export behaviour in terms of export intensity, ANOVA test was used. In this test, *H0* indicates that there is no significant difference between the mean of intangible assets in terms of export intensity in organizations and *H1* indicates that at least one of the mean pairs are not equal.

Table 9. Relationship between intangible assets and export intensity (Source: Research finding)

F	Sig	Test Result
0.673	0.577	Accepted

According to the result, there is no significant difference between organization’s intangible assets and exports intensity among the export firms (Table 9).

5. Conclusions

The main difference between foreign markets and domestic markets is the intense competition between companies and organizations. This difference is reflected as higher quality, lower prices and domestic and international competitors. Due attention to competitive advantage can be an important factor for survival in global markets. Competitive advantage can be achieved through firm’s strategic resources among which, because of

creating competitive advantage, intangible assets are of a great importance. Some resources such as intangible assets are particularly important for firms, because of creating capacity for innovation and achieving competitive advantage, through distinction, and affecting their export behaviour in the long term. Hence, if a proper understanding of these resources is provided for corporate managers, it can be expected that they improve the situation of the company, sustain the competitive advantage and develop the export market share with a clear and informed vision.

Given the importance of these resources, in addition to engaging the senior management in decision-making areas, the measuring of its current situation in the organization and policy making for its improvement is also necessary. In this study, which is conducted to assess the status of intangible assets in export firms' community, the importance level and ranking of them were measured using MCDM techniques and the relationship between intangible assets and export behaviour was studied.

AHP results showed that the human capital ranked first with the weight of 0.347, relational capital ranked second with the weight of 0.259, technological capital ranked third with the weight of 0.181, corporate reputation ranked fourth with the weight of 0.117 and eventually structural capital ranked fifth with the weight of 0.096. As it revealed in the ranking, human capital is introduced as the most important factor among the intangible assets and particularly among the intellectual capital. According to TOPSIS results the relative approach degree of indices to the ideal solution, human capital placed in the first place ($CC_i = 0.941$), relational capital in the second place ($CC_i = 0.713$), technological capital in the third place ($CC_i = 0.657$), corporate reputation in the fourth place ($CC_i = 0.568$) and structural capital occupied the fifth place ($CC_i = 0.499$).

These results emphasis on human resources more than other aspects; it must be considered and noted more than ever and be placed on top corporate development program priorities. In addition, given that strengthening human capital can underlie the continuous presence of firms in the international business, therefore it is essential that we change our view and attitude towards the human capital of export firms considering its undeniable importance. To improve and promote this strategic resource, we recommend the establishment of strategic human resources management in the export community.

To study the behaviour of export firms, we reviewed two variables including quality of presence in the market and export intensity. According to the quality of presence in the market, active companies were divided into three categories including permanent, periodical and occasional. According to obtained results, there is a significant difference between intangible assets of the organization and the quality of presence in the market by export firms. Those results revealed that there is a significant difference between permanent and occasional presence in the market and the level of intangible assets of firm in a way that mean of intangible assets of firms with permanent export in the area under study is higher than that of firms with occasional export. In addition, permanent presence in the export market with the mean of 3.707 and periodical presence with the mean of 3.361 are placed in the first group and periodical presence along

with occasional presence with the mean of 3.115 is placed in second group. According to these results, it can be stated that firms with periodical export are in the transition stage, which in case of strengthening their intangible assets they become permanent exporters and otherwise they may fall into the occasional export companies' category.

The second variable was export intensity i.e. export-sales ratio, according to which firms in this field are classified into four categories including less than 10 percent, between 11 to 25 percent, between 26 to 50 percent and more than 50 percent. Based on the results we can conclude that there is no significant difference between organization's intangible assets and the export intensity in the export firms. So in addition to intangible assets of the organization, probably other factors such as type of industry, export commodity and selected export markets have a great impact on export intensity and accurate comment on this issue require further careful investigations. For this purpose it is recommended that the relationship between intangible assets and intensity of exports be studied considering the type of industry and export commodity including raw material or finished good.

According to the results of this study, the following practical recommendations are provided:

1. Given that achievement of sustainable competitive advantage depends upon having an acceptable level of intangible assets (which according to our results were higher in firms with permanent presence) therefore, we suggest that managers and policy makers should pay due attention to strengthening strategies for these resources regarding their importance in various areas of industry and business. Considering that intangible resources are not imitable by competitors, the competitive advantage obtained by them is sustainable and thus will result in stability and even export development.
2. According to inevitable importance of human capital among all types of intangible assets, it is necessary for the managers to change their view toward the human capital in the export community. Hence, to optimize and improve this strategic resource we recommend that the strategic human resource management to be established in the mentioned community. In order to improve the human capital in the export firms, managers should be considered personnel empowerment (including enhancing performance and skill level, supporting innovation and intelligence, employees training and educational programs), knowledge management (including knowledge acquisition, sharing and utilization) and supportive organizational culture (including risk taking, supporting new ideas, encouragement to cooperation, efficient salary system) as their priority in strategic planning.
3. Taking into account that the mean of intangible assets in the firms with permanent export is greater than that of firms with occasional export, we can infer that intangible assets play a significant role in developing weak firms into strong ones. Hence, it is suggested for weak firms to first evaluate and measure the level of above mentioned resources in their unit, then considering the firm's priorities and

abilities, the operational plans and quantitative objectives to be set in order to optimize the level of intangible assets. For instance benchmarking prosperous and pioneer companies can be helpful in setting the targets and taking the steps towards achieving them.

4. According to our research findings, intangible assets have a direct impact on export development; therefore, reviewing, monitoring and improving these variables must be a priority in the senior manager's agenda. In this regard implementing intangible assets excellence models by public institutions and export councils in evaluating export firms could be helpful for supporting successful strategies.

6. Further research

In order to conduct further research the following suggestions are provided to researchers:

1. Further study on intangible assets development procedures in industrial units based on the type of industry and then comparing the results to that of current research could bring more insight in this area. Therefore, we suggest the future researchers to focus their work on comparisons among industries.
2. Given that no significant difference between intangible assets of export firms and their export intensity was observed, we recommend further accurate study of this relationship in future studies. It could include study of the relationship between intangible assets and export intensity regarding type of industry and type of export commodity (raw material or finished goods), because it is expected that in case of break down in the statistical population, different and interesting results would obtain which will provide new insight for analysts.
3. Because of the inherent ambiguity in the organization's intangible assets, we recommend the researchers to optimize their analysis by using fuzzy methods; in this regard using fuzzy AHP and fuzzy TOPSIS techniques would be helpful.
4. The focus of current research was on the export firms, but developing the research community to non-exporting firms would help to analyze the possibility of being an exporter for these firms from the intangible assets point of view.

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