



ANALYSIS AND IDENTIFICATION OF COMPETITIVE POSITIONS OF COMPANIES OPERATING IN IRANIAN BATTERY INDUSTRY USING HIERARCHICAL ANALYSIS

Amir Hooshang Nazarpouri

Assistant Professor, management department, Lorestan university Khorram abad, Iran

Mohammad Hakkak

Assistant Professor, management department, Lorestan university Khorram abad, Iran

Mehdi Mohammadi

M.A Student of Business Management, Lorestan University, Iran

ABSTRACT

Today's world is a world of change and development as every day and every moment the world around us is trying to make progress toward a better and stronger future than before. Consequently, the first critical step leading to the increasing attempts of organizations and industries is competition. Obviously, in such environment any disregard toward the other competitors for whatever extent and reason causes irreparable damages organization and makes their competitors outrun them. The present study, as its name suggests, aims to analyze and identify competitive positions of companies operating in Iranian battery industry as one of the most important industries in Iran. To collect the data, a number of questionnaires were prepared and distributed among agencies and sellers active in Shiraz and Isfahan. To this end, the demographic characteristics of the population under study were studied using SPSS Software. Then the strongest companies in terms of their competitive positions were identified according to the opinions of experts and professionals in the field of industry using Expert Choice Software. The results of the study indicated that of five domestic and foreign active companies including Saba Battery, Borna Battery, Sepahan Battery, Azar Battery, and Korean battery making companies, the Korean companies gained highest ranking in terms of complete position.

© 2014 AESS Publications. All Rights Reserved.

Keywords: Competitive position, Competitive strategy, Market share, Price competitiveness, Loyalty, Quality.

1. INTRODUCTION

The concept of competitive advantage entered the strategic management literature after the

invention of the firm competitive analysis approaches with the attempts made by the Boston Consultation Group. The concept of competitive position introduced by this group has been regarded as synonymous with the market relative share. Besides, this concept was further developed by different scholars in the aftermath of the emergence of models of competitive analysis. According to Fred A. David, competitive position is an index that measures the relative power and dominance of a given business in a market compared to the competitors and it is gained using the business weighted average in the market share compared to competitors, customer loyalty, product quality, and price competitiveness [1]. On the other hand, organizations in order to gain success in the competitive environment are in the need of strong tools that can be used to take advantage of the competitive advantage. The most well-known strategy used in the global competition environment is Michael Porter's Model of Generic and Competitive Strategies so that the model contributes to creating a deep insight among managers, economists, and policymakers to adjust the most appropriate strategy to promote organizations' competitive position. At present, competition is regarded as the most important mechanism through which best solutions are presented to achieve economic development under favorable economic conditions [Garengo, et al. \[2\]](#). Therefore, companies are needed to continuously monitor their market conditions at all levels of competitiveness [3].

Under current conditions and due to the existence of a competitive environment, organizations must be aware of their environmental conditions as are their competitors. It means that the organizations are required to employ systematic performance evaluation techniques as well as to take into account their competitive position. The identification of an organization's competitive position makes it possible to analyze the strategies employed by its competitor which in turn enable the organization to choose the best and the most appropriate way to achieve success and development [4].

1.1. The Significance of the Study

Today, the pursuit of competition-based objectives to achieve a favorable competitive position in the industry is one the main concerns of the firms. Attempts made to increase the market share, to make the customer more loyal, to increase product quality, and to improve the price costs of the firms can be seen as attempts to enhance the competitive position and to achieve and establish a superior competitive position on the part of businesses in the current competitive market [1]. Given that the competitive position of the firm is the basis of the development of the firm's strategies, the significance of the determination of the dimensions and measurement indices of the competitive position becomes clear.

One of the important and capable industries in terms of profitability and employment is the battery making industry. As a result, performance of a detailed study in order to make plans to improve the competitiveness of this industry in domestic markets and the provision of appropriate and applicable mechanisms is of vital importance. However, despite the importance of competitiveness to improve the Iranian economic position and income generation; no study has yet conducted to examine the competitive position of companies operating in the battery making industry in Iran. Shedding light into this issue may surprisingly affect macro decision makings and

goal settings of the companies. In addition, the investigation of the concept of competitive position and the effects of different aspects on the companies' competitive position can contribute to the adoption of useful strategies to achieve competitive advantage. Accordingly, in order to show the significance of studying the competitive positions of battery manufacturing companies as well as the importance of the recognition of competitive strategies taken by rival companies for the success of other companies was the main reason for the performance of the present study with the purpose of making clear the significance of the employment of the known strategies for the organization. In addition, the present study also aimed to investigate Porter's competitive strategies and shed light into the extent of their success to pave the way for making vital decisions for the organization and improve its market share and its competitive advantage.

1.2. Theoretical Framework of the Study

1.2.1. Fred R. David Competitive Position Matrix

According to Fred A. David, competitive position is an index that measures the relative power and dominance of a given business in a market compared to the competitors and it is gained using the business weighted average in the market share compared to competitors, customer loyalty, product quality, and price competitiveness [1]. The competitiveness of an organization is defined as a potential to achieve a higher performance based on a creative approach to human, capital, and natural resources [5]. Components that have been mentioned by David as elements of competitive position in addition to having the highest perception in the studied models as well as their brevity include factors related to market and factors related to other strategic cases. In addition, the commonality of these components in most models shows the relative importance in the view of the majority of strategic management theorists.

1.3. Competitive Position Components

According to what was mentioned, competitive position is a very general concept whose measurement requires the analysis and the recognition of organizational components, each is regarded as a broad concept encompassing a great number of elements. The definitions of components of the selected model including market share, customer loyalty, product quality, and competitiveness are presented in this section as follows:

1.4. Market Share

Market share refers to the percentage of total volume of a given market in which the firm sales its products. In other words, the market share is the percentage, number, or amount of sales of a firm relative to the total numerical or monetary value of a given market. Several empirical studies have introduced the market share as an index used to determine the competitive position of a given organization in the related industry [6]. Hidetaka [6], for instance, in a study has defined the market share as variable reflecting the strategic advantage as he regarded the market share as an important factor for the analysis of a company's competitive position.

1.5. Customer Loyalty

Given the importance of the market share for the organizational growth, an awareness of the concept and model of loyalty is highly important. The lack of such awareness may make service organizations choose incorrect indices for the purpose of measuring customer loyalty so that such organizations are not able to link customer loyalty to performance indices and consequently they commit mistake in designing loyalty programs and identifying customers' correct behaviors [7].

Losing a customer whether definitely or in the form of reduced repurchase results in the sale volume. In other words, new customers have to be absorbed even through highly concentrated marketing activities. This matter becomes more significant in the light of the fact that the cost of absorbing new customers is much higher than the maintenance of the old customers. Given the importance of customer loyalty for the organizational growth, managers and marketers must get well familiar with loyalty models and gain sufficient knowledge of it [8]. Various definitions have been presented about customer loyalty, some of which are discussed as follows:

Larson and Susanna [9] have argued that loyalty is the creation of the commitment in customers so that they transact with a given organization and buy its products and services repeatedly. Loyalty has been also defined as a total commitment towards the repurchase a preferred product or service in the future which is the same as repurchasing a brand despite of environmental effects and marketing actions taken by other customers to change customers' behavior [10].

1.6. The Significance of Studying Customer Loyalty

In today's world, sellers value their customers much more due to market competition. Now the question is: Why does the loyalty to a brand cause significant results? There are three main reasons to answer this question:

1. **Higher sales volume:** The achievement of an increase in the annual growth by 1% requires the increase in the sales volume to the existing and new customers by 14%. Reducing customer losses can increasingly improve the business growth and customer loyalty to a given brand.
2. **The ability to raise prices:** The results of the studies indicate that to the extent that the loyalty to a brand increases, to the same extent the customers show less sensitivity to price changes. Customers are generally willing to pay high prices for the brand they like because they have observed in that brand unique values non-existent in other alternative brands.
3. **The maintenance of the old customers is preferred over looking for new customers:** The customers loyal to a brand are willing to look for their favorite brand and they are less sensitive to competitive advantages which results in lower costs of distribution, competition, and marketing.

Garvin [11] has presented eight main dimensions for the concept of the quality for the purpose of performing strategic analyses. The dimensions of quality, according to Garvin, are as follows:

1. **Performance:** It refers to the primary function of a product in line with a goal that the product is used to achieve it.

2. **Features:** They are secondary properties of a give product or service as complementary to the main function of the product or service. Making a distinction between the performance and features of products is a challenging work. For instance, the ease of use can be regarded as one of the feature of pharmaceutical and health products.
3. **Reliability:** It is related to the number of defective products over time. The lower the ratio of the defective products supplied in the market to the whole products, the higher the reliability.
4. **Conformance (with standards):** It refers to the extent of the conformity of design, performance, and features of products with the determined standards.
5. **Durability:** It refers to the sustainability of a product when it is used as well as at other times it is not used.
6. **Serviceability:** It refers to the speed of a given company in terms of service delivery, affability, competency of service delivery, and the quickness of repairs.
7. **Aesthetics:** It is the qualitative dimension of the quality. The appearance of a product, its sound, color, odor, and taste are factors that are exposed to people's judgment and they show reactions to such factors based on the own personal preferences. Based on this dimension, making all customers satisfied seems a bit difficult.
8. **Perceived quality:** Consumers usually do not have detailed information about products and services so they may use indirect criteria to compare different products. Some of the criteria that affect people's judgment are customers' mental image of products, advertisements, reputation, and the brand name [11].

1.7. Competitive Price and Price Competitiveness

Before going into any discussion about the competitiveness of an organization, it should be mentioned that the term competitiveness does not have a comprehensive and unified definition whether at national and international level. According to Michael Porter, competitiveness has been defined as a concept of competitive advantage. He suggests that competitiveness is the result of competitive strategies used by the organization to achieve and maintain ccaa. Accordingly, he points out to two key strategies, i.e. cost management and distinctions as the basis of achieving ccaa [12].

Competitiveness has been defined as the ability and willingness to enter the competition. From an economic point of view, Porter has defined competitiveness as synonymous with productivity and the way human resources, capital, and natural resources are used by an organization [13]. A price determined lower than that of competitors to increase sales and market share is called competitive price. In addition, a price with easier payment conditions such as long-term payment (to increase market share) than the price offered by other competitors is seen as competitive price [14]. Price competitiveness at firm level refers to the ability and the willingness of the firms to set competitive prices in the market that is dependent to a large extent on the final cost of the firm's products and services and the difference between profit margin of the firm and the industry as well as pricing policies and intentions of the managers [15].

Review of literature

This section presents previous research on competitive positioning of different organizations performed by different scholars:

[Darling \[16\]](#) in a study entitled “Successful competitive positioning: the key for entry into the European consumer market” focuses on the significance of competitive positioning and introduces a model to create a competitive position in the customers’ mind that helps managers to use successfully the determined elements to achieve a better competitive position in the European consumer market.

In a study done by [Mruk \[17\]](#) in the field of dental clinics management, the main factors of the competitiveness in the dental industry were found to be the extent of the modernization and the quality of services offered and the patients’ satisfaction with services.

The results of a study by [Chang and Tsai \[18\]](#) indicated that organizations are able to take advantage of market opportunities through more cooperation with pioneers of superior foreign technologies and the use of domestic resources such as general sponsors and supporter, the establishment of infrastructures, and the use of superior human resources. Accordingly, speed, quality, flexibility, and cost were found to be the most important elements of the ccaa for firms operating in the Taiwanese semiconductor industry [19].

Today, competitiveness has become a goal for organizations to achieve higher levels of performance [20]. In a study by [Sofia \[5\]](#) five factors of the accessibility to capital, innovative activities, intellectual capital, internationalization, and taking appropriate actions were used to determine the level of competitiveness in small and medium-sized industries.

The results of the studies performed by [Pentor Research International \[21\]](#) on a sample of 100 Polish companies suggested that the following cases are among the most important competitiveness factors: the quality of products and services offered, having the established reputation, paying attention to individual needs of customers, quick delivery of products or services, and having stable relationships with customers [21].

1.8. An Overview of Hierarchical Analysis Process

The world around us is replete with lots of complex issues to the extent that decision-taking about them requires paying attention to a plethora of factors. For example, a simple matter such as choosing a job requires taking into account various factors such as income, social position, creativity, and originality plus many other factors so that the decision maker should consider various options in the light of these factors. In macro decision-makings such as the adjustment of a country’s annual budget, budgeting professionals take into account different objectives such as security, education, industrial development, and health-related issues. Such multi-criteriadecision-makings are so critical in some cases that making a mistake may result in irreparable losses. Therefore, it is needed to develop appropriate techniques for choosing the best options and making correct decisions. The present study addresses one of such techniques called hierarchical analysis process.

Theory of hierarchical analysis process was first developed in 1979 by Thomas L. Saaty. The hierarchical analysis process is one of the most comprehensive systems designed for multi-criteria decision-makings as it contains characteristics of a multi-criteria decision-making support system.

For instance, the system provides the possibility of formulating the problems in a hierarchical form and also performing sensitivity analysis on norms. In addition, since the system is based on pairwise comparison it facilitates the process of making judgments and calculations. It also shows the inconsistency of decisions which is one of the preferred advantages of this technique in multi-criteria decision-makings [22].

1.9. Implementation Steps of the Hierarchical Analysis Process

The hierarchical analysis process is based on pairwise comparisons. The decision-maker makes a decision by designing a hierarchal tree. Decision-making hierarchal tree shows the factors to be compared and competing options affecting decision-making process. Then, a number of pairwise comparisons are made to assess the average of each factors based on competing options in decision-making. Finally, the logic of hierarchical analysis process synthesizes the matrixes resulting from pairwise comparisons in a way that to achieve the optimal decision.

The application of this technique is performed in four main stages: 1) Model making (hierarchical structure), 2) Making pairwise comparisons, 3) Calculating relative averages, and 4) Calculating the data validity (inconsistency rate).

1.10. Expert Choice Software

Expert Choice software is a strong tool to make multi-criteria decisions based on the hierarchical analysis process that was first introduced by Thomas L. Saaty as one of the founders of Expert Choice in the University of Pennsylvania. The software has a great number of capabilities in addition to the possibility of plotting decision-making hierarchical curve, development of questions, determining preferences and priorities, and the calculation of final averages as well as the ability of analyzing decision-making sensitivity to changes in the problem parameters. More importantly, the software employs useful diagrams and graphs in most cases to present the results and functions.

2. RESEARCH METHODOLOGY

Scientific researches are divided into three categories of fundamental, applied, and developmental research in terms of the objectives they pursue. The present study is an applied research concerning the objectives it follows and it employs a quantitative method to collect the data. In addition, the present study uses as descriptive-survey research design. A descriptive research design describes variables under study or deals with the relationship between the variables. In addition, in a survey research design; the data are collected through questionnaires and interviews from among people who are more likely to possess the desired information.

The population in this study included 30 sales agencies of battery-making companies' products, 17 in Isfahan and 13 in Shiraz. According to the Morgan table, the sample size was the same as the population, i.e. 30 sales agencies.

General information about different types of products, annual sales volume, sales volume for each product in terms of different brands and other factors was collected by interviewing managers

and professionals in companies under study. Since the collection of such documentary information was difficult, the interview method was used.

3. RESULTS OF THE STUDY

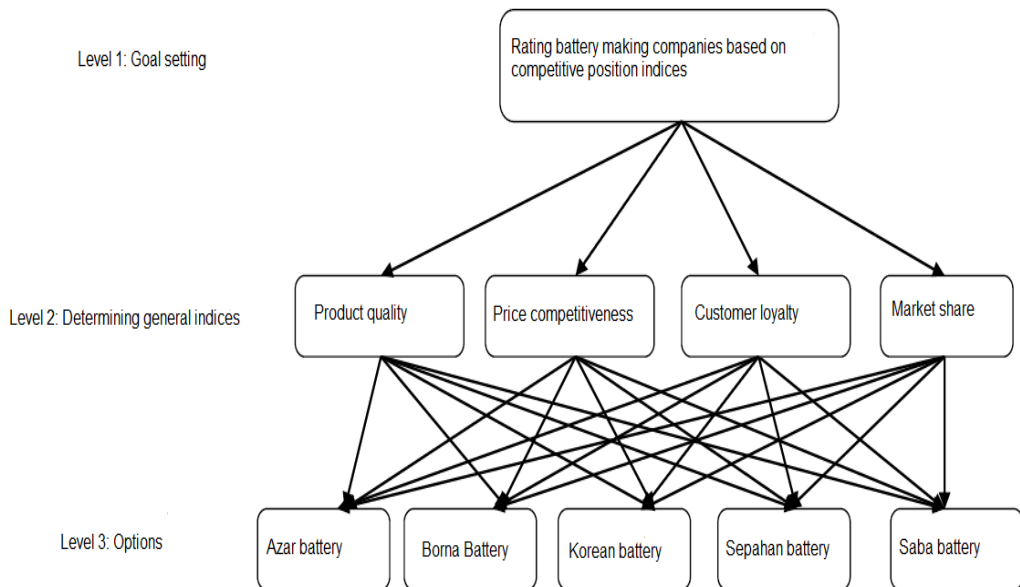
This section presents the results of the data analysis. First the participants' demographic characteristics collected through questionnaires were analyzed using SPSS and Excel software. Then the best companies active in the field of battery making were determined from among domestic and foreign companies based on the scores given by experts and professionals using AHP technique and Expert Choice Software.

The analysis of the participants' demographic characteristics shows that 13.3% of the participants were 20-25 years old and 33.3% of them were 25-35 years old. However, the majority of the participants (40%) were males aged 35-45 years old. Besides, 13.3% of the participants were over 45 years. Concerning the education level of the participant, it was noted that 60% of the participants were males with a high school and an associate degree, 26.7% had a B.A degree, and 13.3% held an M.A degree with no one having a PhD degree. The analysis of the participants' job experience indicated that 30% of them had a job experience of 1-5 years and the same number had a job experience of 5-10 years. In addition, 13.3% of the participants were working for 10-15 years and 26.7% were working for over 15 years.

3.1. Plotting the Hierarchical Decision-Making Tree

The first step of the hierarchical analysis is to plot the decision-making tree. The tree includes goals, norms, and options as follows:

Figure-1. Hierarchical ratings of battery making companies based on competitive position indices



3.2. Relative Priorities of Indices

In this stage, the scores of battery making companies were determined based on comparisons made by the experts in the field among the companies against the above mentioned indices.

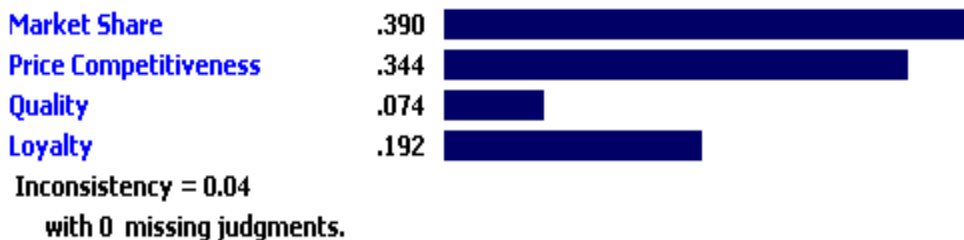
Table-1. Relative priority matrix of general indices

General indices	Market share	Price competitiveness	Product quality	Customer loyalty
Market share	1	1	4	3
Price competitiveness	1	1	4	2
Product quality	1/4	1/4	1	1/4
Customer loyalty	1/3	1/2	4	1

As can be seen in the following figure, the relative priorities of competitive position indices are market share, price competitiveness, customer loyalty, and finally product quality. In addition, as shown in the figure, the inconsistency rate of the pairwise comparison of indices is equal to 0.04 which is less than 0.01; suggesting the acceptable accuracy of the pairwise comparison.

Figure-2. Relative priority of general indices and their inconsistency rates

Priorities with respect to:
Goal: competitive position



Relative averages of options (pairwise comparisons)

The pairwise comparisons of options in terms of the indices were performed after the pairwise comparisons of general competitive position indices. Table 2 shows the pairwise comparison scores of options in terms of the market share:

Table-2. Relative priority matrix of options in terms of market share

Market share	Saba Battery	Azar Battery	Sepahan Battery	Korean companies	Borna Battery
Saba Battery	1	4	2	1/5	3
Azar Battery	1/4	1	1/3	1/5	1/3
Sepahan Battery	1/2	3	1	1/4	2
Korean companies	5	5	4	1	5
Borna Battery	1/3	3	1/2	1/5	1

As can be seen in the following figure, the relative priorities of battery making companies in terms of market share are Korean companies, Saba Battery, Sepahan Battery, Borna Battery, and Azar Battery. In addition, as shown in the figure, the inconsistency rate of the pairwise comparison of these companies is equal to 0.07 which is less than 0.1; suggesting the acceptable level of the accuracy of the pairwise comparison.

Figure-3. Relative priority of companies in terms of market share

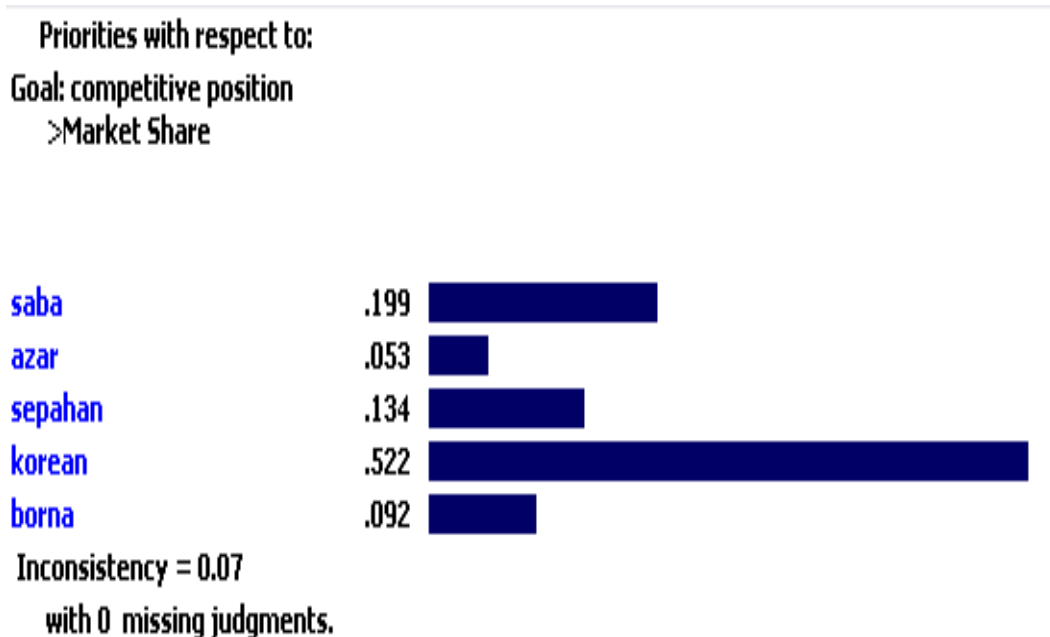


Table 3 shows the relative priority of companies in terms of price competitiveness:

Table-3. Relative priority matrix of options in terms of market share

Price competitiveness	Saba Battery	Azar Battery	Sepahan Battery	Korean companies	Borna Battery
Saba Battery	1	3	2	4	4
Azar Battery	1/3	1	1/2	3	1/2
Sepahan Battery	1/2	2	1	4	2
Korean companies	1/4	1/3	1/4	1	1/4
Borna Battery	1/4	2	1/2	4	1

As can be seen in the following figure, the relative priorities of battery making companies in terms of price competitiveness are Saba Battery, Sepahan Battery, Borna Battery, Azar Battery, and Korean companies. In addition, as shown in the figure, the inconsistency rate of the pairwise comparison of these companies is equal to 0.05 which is less than 0.1; suggesting the acceptable level of the accuracy of the pairwise comparison.

Figure-4. Relative priority of companies in terms of price competitiveness

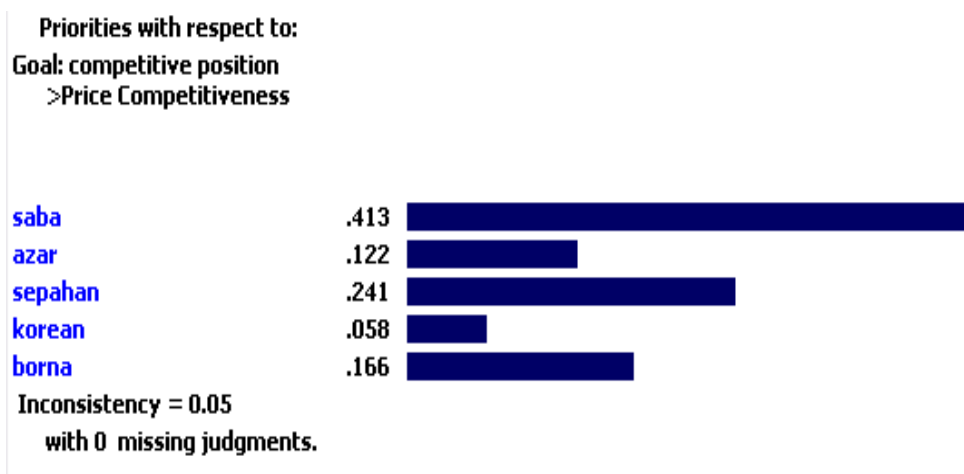


Table 4 shows the relative priority of companies in terms of product quality:

Table-4. Relative priority matrix of companies in terms of product quality

Product quality	Saba Battery	Azar Battery	Sepahan Battery	Korean companies	Borna Battery
Saba Battery	1	3	1	1/4	2
Azar Battery	1/3	1	1/4	1/4	1/3
Sepahan Battery	1	4	1	1/2	4
Korean companies	4	4	2	1	5
Borna Battery	1/2	3	1/4	1/5	1

As can be seen in Figure 5, the relative priorities of battery making companies in terms of product quality are Korean companies, Sepahan Battery, Saba Battery, Borna Battery, and Azar Battery. Besides, the inconsistency rate of the pairwise comparison of these companies is equal to 0.06 which is less than 0.1; showing the acceptable level of the accuracy of the pairwise comparison.

Figure-5. Relative priority of companies in terms of product quality

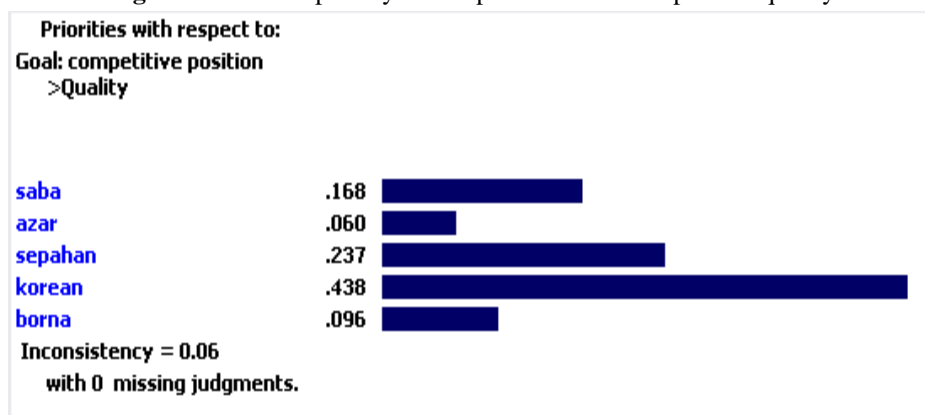


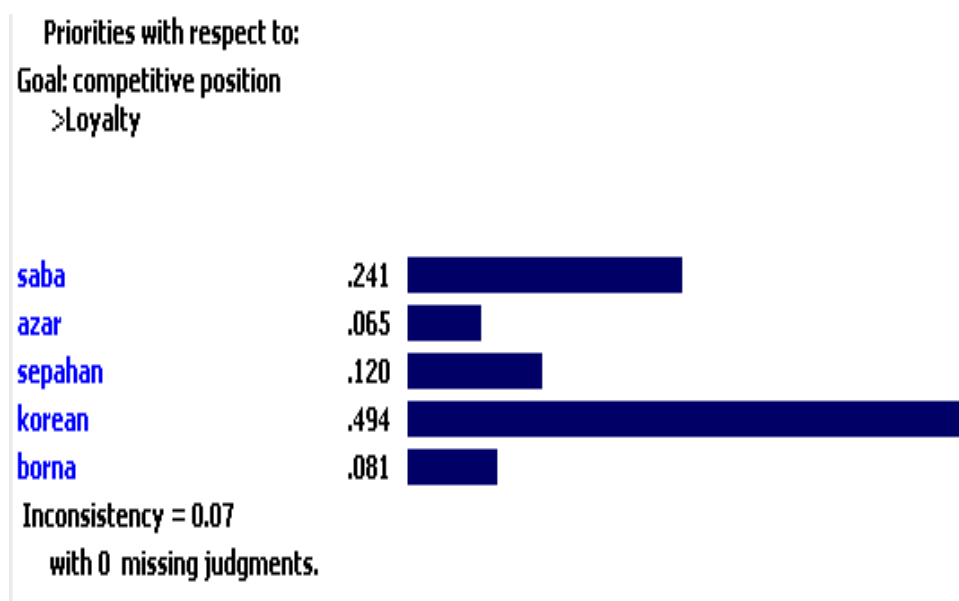
Table 5 shows the relative priority of companies in terms of customer loyalty:

Table-5. Relative priority matrix of companies in terms of customer loyalty

Customer loyalty	Saba Battery	Azar Battery	Sepahan Battery	Korean companies	Borna Battery
Saba Battery	1	3	4	1/4	3
Azar Battery	1/3	1	1/2	1/5	1/2
Sepahan Battery	1/4	2	1	1/3	2
Korean companies	4	5	3	1	6
Borna Battery	1/3	2	1/2	1/6	1

As can be seen in Figure 6, the relative priorities of battery making companies in terms of customer loyalty are Korean companies, Saba Battery, Sepahan Battery, Saba Battery, Borna Battery, and Azar Battery. Besides, the inconsistency rate of the pairwise comparison of these companies is equal to 0.07 which is less than 0.1; showing the acceptable level of the accuracy of the pairwise comparison.

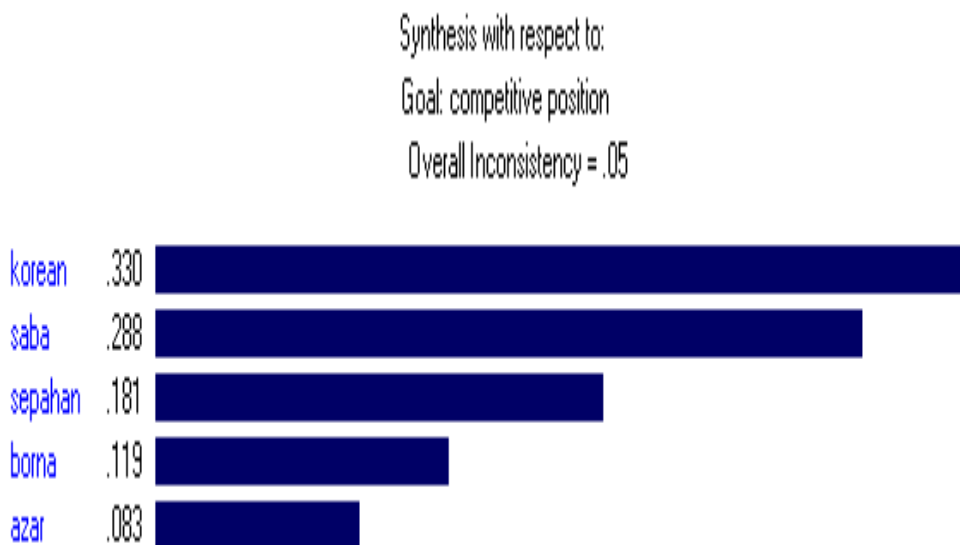
Figure-6. Relative priority of companies in terms of customer loyalty



3.3. The Overall Averages of Companies

The overall averages of options in a hierarchical process are the sum of the significance of indices multiplied by the averages of the options. To do so, the hierarchical synthesis principle was used resulting in the formation of a priority vector that took into account all of opinions at all hierarchical levels. The output of the Expert Choice Software for the above analysis shows the priority of the options in terms of the overall competitive position indices and the relative average of each index as shown in Figure 7:

Figure-7. Priority of companies in terms of competitive position indices



As shown in the above figure, the overall inconsistency rate is 0.05 which is less than the critical value by 0.1; showing the acceptability of overall calculations.

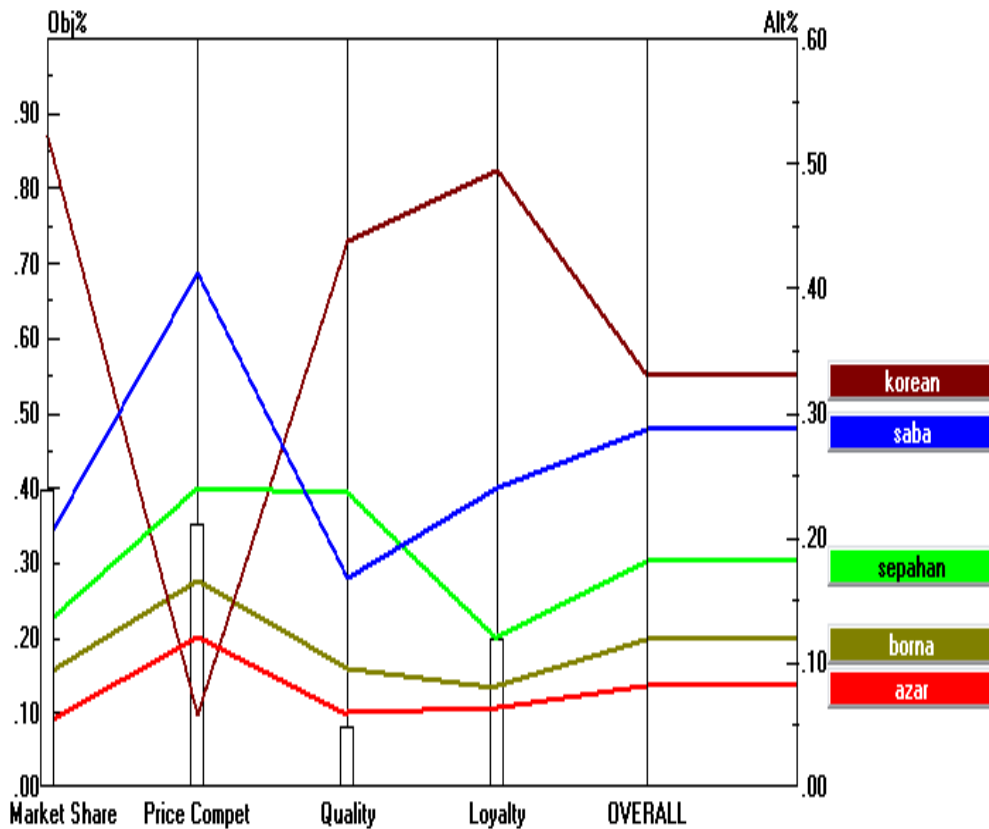
4. CONCLUSION

The aim of the analyses performed by the Expert Choice Software was to prioritize the companies operating in the battery making industry and to choose the best company. As was mentioned earlier, first the competitive position of the companies operating in the Iranian battery making industry was examined. Then the five major companies in terms of their competitive positions were identified according to the opinions of experts and professionals including four domestic companies (Saba Battery, Borna Battery, Sepahan Battery, Azar Battery, and a Korean company). To identify the best company, AHP technique and Expert Choice Software were used. As the results of the analyses and the pairwise comparisons according to the opinions of experts and professionals show, the competitive position indices were scored as follows: the market share with the weighted average of 0.39, the price competitiveness with the weighted average of 0.344, customer loyalty with the weighted average of 0.192, and product quality with the weighted average of 0.074. Finally, the results of pairwise comparisons and the companies' scoring indicated that Korean companies with a weighted average of 0.33 gained the higher position compared to other competitors. Saba Battery, Sepahan Battery, and Borna Battery companies with the weighted averages of 0.288, 0.181, and 0.119 occupied the other positions, respectively. In addition, Azar Battery with the weighted average of 0.83 occupied the last position. As a result, the strongest competitors in the Iranian battery making industry were recognized in this study. Finally, the companies under study are rated based on their weighted average as shown in Table 6:

Rating	Company	Weighted average
1	Korean	0.33
2	Saba Battery	0.288
3	Sepahan Battery	0.181
4	Borna Battery	0.119
5	Azar Battery	0.083

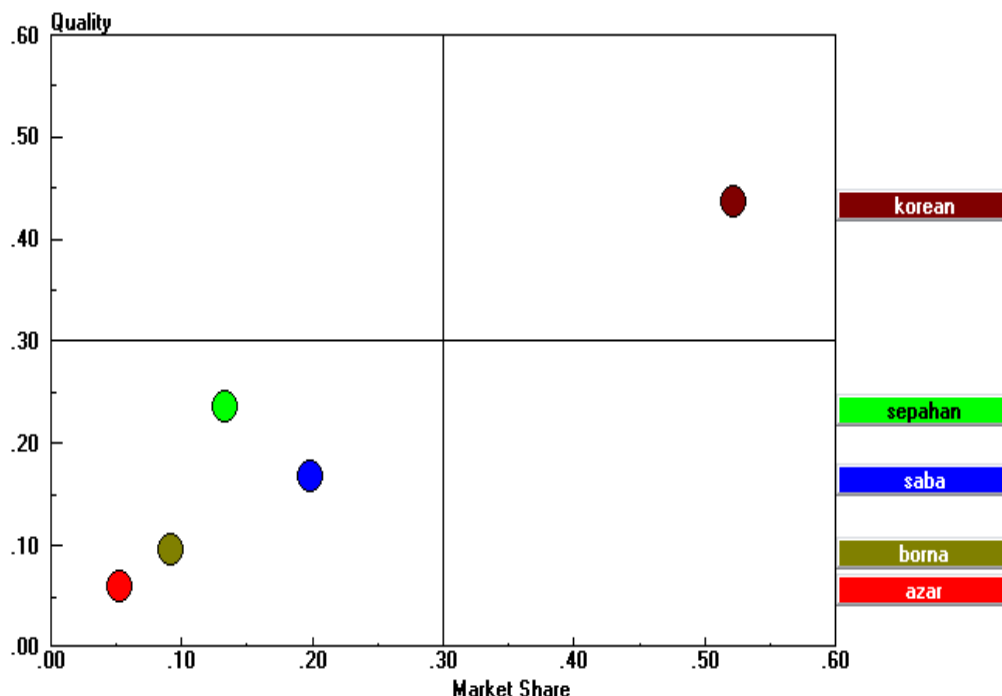
Figure 8 summarizes the overall results of the study in the form of competitive position sensitivity analysis:

Figure-8. Competitive position sensitivity analysis



The horizontal axis in the above figure shows competitive position indices including market share, price competitiveness, product quality, and customer loyalty. The relative significance of the indices is also shown by a bar graph. As can be seen in the above table, the rating of each company is observed separately in terms of competitive position indices. For instance, Saba Battery and Korean company are the highest and lowest rated companies in terms of competitive position index (the second bar on the left).

Figure 9 shows a comparison of companies under study in terms of market share and product quality:

Figure-9. Two-dimensional sensitivity analysis

In the above figure, the horizontal axis shows the market share and the vertical axis shows product quality. The Korean companies with the weighted average of 0.438 have gained the highest market share (0.52) in terms of product quality. Saba Battery Company has occupied the second position. However, it should be mentioned that although Sephan Battery Company has a higher position than Saba Battery Company, it has a lower market share. A possible reason is that the former is a leading company in the provision of competitive prices. Accordingly, it can be concluded that having advantage in only one dimension does not pave the way for the total success so the companies must take into account all dimensions.

REFERENCES

- [1] F. David, *Strategic management*, 6th ed. USA, 1997.
- [2] P. Garengo, S. Biazzo, and U. Bitici, "Performance measurement systems in SMEs: A review for a research agenda," *International Journal of Management Reviews*, vol. 7, pp. 25-47, 2005.
- [3] K. Rostek, "The reference model of competitiveness factor for SME medical sector," *Economic Modelling*, pp. 2039-2048, 2012.
- [4] I. Horta and A. Camanho, "Competitive positioning and performance assessment in the construction industry," *Expert Systems with Applications*, vol. 41, pp. 974-983, 2014.
- [5] Sofia, "Analysis of the situation and factors for development of SMEs in Bulgaria," *Economic Recovery and Competitiveness*, vol. 3, 2012.
- [6] M. Hidetaka, "Capital structure and competitive position in product market," *International Review of Economics and Finance*, vol. 29, pp. 358-371, 2014.

- [7] J. Bartlett, J. Kortlik, and C. Higgins, "Organizational research: Determining appropriate sample size," *Survey Research Information Technology and Performance Journal*, vol. 19, pp. 44-46, 2001.
- [8] T. Jones and S. Taylor, "The conceptual domain of service loyalty: How many dimensions?," *Journal of Services Marketing*, vol. 21, pp. 36-51, 2007.
- [9] S. Larson and H. Susanna, "Managing customer loyalty in the automobile industry," Master Thesis, Department of Business Administration and Social Sciences, Lulea University of Technology, USA, 2004.
- [10] S. Taylor, K. Celuch, and S. Goodwin, "The importance of brand equity to customer loyalty," *Journal of Product and Brand Management*, vol. 13, pp. 217-227, 2004.
- [11] D. Garvin, "Competing on the eight dimensions of quality," *Harvard Business Review*, November, pp. 100-110, 1987.
- [12] M. Piatkowski, "Factors strengthening the competitive position of SME sector enterprises. An example for Poland. International strategic management conference," *Cracow: Social and Behavioral Sciences*, vol. 58, pp. 269-278, 2012.
- [13] M. Porter, "What is competitiveness? Notes of globalization and strategy, year 1, No. 1," 2005.
- [14] R. Hauser, "Competitive price and positioning strategies," *Marketing Science*, February, pp. 76-91, 1988.
- [15] W. Thomas, T. Lau, and K. Chan, "The competitiveness of small and medium enterprises," *Journal of Business Venturing*, vol. 17, pp. 123-142, 2002.
- [16] J. Darling, "Successful competitive positioning: The key for entry into the European consumer market," *European Business Review*, vol. 13, pp. 209-220, 2001.
- [17] H. Mruk, "Ways of competing of (Dental) practices," *Polish Dentistry Journal*, vol. 10, pp. 106-109, 2010.
- [18] P.-L. Chang and C.-T. Tsai, "Finding the niche position - competition strategy of Taiwan's IC design industry," *Technovation*, vol. 22, pp. 101-111, 2002.
- [19] C.-T. Wang and C.-S. Chiu, "Competitive strategies for Taiwan's semiconductor industry in a new world economy," *Technology in Society*, pp. 60-73, 2014.
- [20] H. Mihaela, "Measuring international competitiveness of Romania by using porter's diamond and revealed comparative advantage," *Procedia Economics and Finance*, vol. 6, pp. 273-279, 2013.
- [21] Pentor Research International, "Analysis of the factors of competitiveness of the SME sector. Report on the state of small and medium enterprises in Poland in 2006-2007," *Polish Agency for Enterprise Development*, vol. 2, 2008.
- [22] S. Qodusi Pour, *Hierarchical analysis*. Tehran: Publication Center of Amir Kabir University of Technology, 2002.