EVALUATION OF BRAND EQUITY IN SOFTWARE COMPANIES: 
CASE STUDY OF CHARGON

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Abstracts
IT industry especially the software industry is of the growing industries in the world which has grown considerably in recent years. In such circumstances, there will be some companies which want to differentiate themselves from competitors and create a unique and favorable position in the minds of their own enterprise customers; one way to create a sustainable competitive advantage in these markets that already has been less discussed is the creation of brand equity. Thus, the aim of this study is to evaluate brand equity in software companies that Chargon Company was selected. The statistical population included managers of Chargon’s subsidiary companies and their users that given the unlimited society, Cochrane formula has been used in unlimited population to determine sample size. Due to the minimal amount of sample that is 386 questionnaires, 500 questionnaires were distributed in the population. Structural equation modeling approach and SmartPLS.2 were used to analyzing collected data. The results show that emotional variables affect value on brand equity is 0.64. Also functional variables affect value on brand equity is 0.89. Market behavior variable plays a positive mediating role between emotional variables and brand equity. On the other hand market behavior plays a negative mediating role between emotional variables and brand equity. Considering t-values higher than 1.96, the significance of relationships obtained is confirmed in 95% confidence level.

Research paper

Keywords: Evaluation, Brand equity, Software company, IT, Services


Introduction

The role brand on companies’ product identification in today's growing markets is undeniable. Building a strong brand is the goal of many organizations. Today, commercial brands are the most valuable than all assets of the company. Commercial brands increase their owners' economic and strategic value. Marketing managers attempts to create and maintain brand without the necessary planning lead to problems for the companies. Most of
marketing managers or brand managers well understand marketing concepts such as understanding customer needs, localization, and promotion and advertising activities and have extensive experience in implementing them (Salamzadeh et al., 2015). But in fact what cause problems in marketing products and services is that they can’t apply marketing concepts in promoting brand equity. In fact, they don’t have a correct perception of concepts like brand, its management and brand equity. Over the past few decades traditional approaches to marketing being challenged and communication marketing have been proposed as an alternative species. Relationship marketing has changed its marketing focus from short-term absorption of separate transaction customers toward maintaining loyal customers (Taleghani et al., 2011).

Brand equity is the key concept for academic and commercial research, because those successful brands provide marketers with competitive advantages (Salamzadeh & Kawamorita, 2013). Brand equity can be examined from two different perspectives: Financial and customer perspectives. Although various definitions of brand equity have been proposed, but the most accepted definition belongs to Aaker definition. He states that brand equity is a set of assets and liabilities that belongs to the brand and its name and symbol and this responsibility added or subtracted something from value given by company's product or service (Aaker, 1991). Yu and Danto (2001) described brand equity as a multidimensional construct that includes conceptual quality and the brand loyalty and brand image. Perceptual quality is the key and main dimension of brand equity. The perceptual quality determines the functional benefits associated with the brand and these bene-
fits increase brand equity. The brand loyalty is also main dimensions of brand equity.

Keller (1993) states that brand loyalty leads to a favorable beliefs and attitudes about the brand and repeat the buying behavior related to brand and has unique and favorable relationship with brand. As a result, brand equity can be increased. Another dimension of brand equity is brand image. Keller (1993) states that creating good and strong image in the minds of customers increase brand equity. This means that a positive image of the brand increases the likelihood of brand selection and maintain brand from competitive threats. Investigating research history of brand equity indicates that there are three models and frameworks for understanding and measuring brand equity:

1- Acker framework with management perspective to brand equity.
2- Psychological and memory-based perspective of brand equity. (Keller)
3- Erdem and Savit’s (1998) brand equity framework based on indicators theory and information economic. (Erdem and Savit, 1998)

Brand equity can be estimated from three perspectives: the customer mind, the results obtained from product market and the financial market (Keller and Lehmann, 2001). IT, as defined by the Information Technology Association America, act to investigating, design, development, implementation, support or management of computer-based information systems, particularly computer software and hardware applications”. In short, IT deals with issues such as the use of electronic computers and software and try convert, store, protect, process, transmit and retrieve information be done in a reliable and secure method. It consists of four basic elements of human,
mechanisms, tools (software, hardware, network and communications), the structure, so that in the technology, information flows through a value chain that is created by linking the elements and continuously try to excellence and the evolution of organization. IT is one of the growing industries in the world especially the software industry, which have grown exponentially in recent years, so that one of the managers of Hewlett-Packard Co believes that in the not too distant future, software engulfs the world and all companies will be forced to use the software in their affairs (Rafie et al., 1391).

In such circumstances, there will be some companies who want to differentiate themselves from competitors and have deserved and unique status in their own customers’ mind, one of the ways to create sustainable competitive advantage in these markets that less received attention is creating brand equity. This means a value that is added by the brand to products and services and can be created, maintained and strengthened. There are several requirements for the dimensions of brand equity, for example, any marketing activity has the potential to impact on brand equity, because these activities shows the impact of marketing investments on brand (Keller, 1993). Activities such as advertising costs, marketing research costs and sales force, brand history, the share of advertising and product portfolio and other marketing activities such as public relations, warranty, reverberating slogans, symbols, packaging, corporate image, country of origin and the promotional process and brand naming strategy, have been proposed as sources of brand equity (Yu et al., 2000).

Considering the features of software products, the importance of brand equity in this product is very high, usually selecting product or service in this industry is done in this basis. According to highlighted role of brand-
ing in industrial sector and the importance of brand equity in the software industry, the necessity to use a comprehensive model to evaluate the factors affecting brand equity in the IT services markets (especially the software industry, where products are more complex and the need for special support services) is quite apparent. Because in this industry due to the high risk of purchase, the buyers prefer powerful and famous brands to other brands available in the market. According to above mentioned, investigating factors affecting the evaluation of brand equity of IT companies given the research done and field study is of great importance. In this study, we are looking to answer the question of how brand equity in software companies be evaluated according to the proposed model? In this companies what is the impact of important components of this model on brand equity?

Literature review and research background

Investigating business brand with B2B business

B2B brand means that how a B2B business seen by a range of stakeholders, not only customers, but suppliers and investors, but also potential future business objectives of leading industries that have began to practice many of the B2B brand, coordinate themselves from identifying the main target audience for their messages to ensure their approach with business strategy (Wise, 2008).

In general, companies and organizations consider the following parameters in their purchase decision: Technical competence of providers, product specifications, product as well as suppliers past functional, price and its impact on final cost of the product, duration where the ordered equipment will be released, reliability of providers in terms of after-sales
service, repairs, warranties, etc., comparing products of competitors and suppliers in above parameters, on the other hand industrial marketing, their customers in trade and relevant industry, as shown below, are divided as follows: traders, contractors, manufacturers, original equipment manufacturers, direct employee or consumer products, engineering projects (Baird, 2010).

B2B buying is complicated process that involves large number and different levels of officials and buying employees especially in government agencies. Marketer must understand buyers’ needs and their limitations based on product design, financing, technical competition and so on. After reviewing the strengths and weaknesses of the organization compared to other competitors, marketers offer some of product features which receive customer more attention. However, for effective branding, industrial marketer must always be in contact with customers, not only before ordering but also during the ordering process and after run he/she must be accompanied with the client. B2B marketing involves selling products and services to other organizations that consumers may offer it or not. Products offered generally in terms of technology and cost in their development more complex than consumable products. Typically merchandise are classified as follows: Raw materials, parts and components, capital equipment, management and consulting services (Gupta et al., 2008).

B2B organizations need to have consistent and strong brands, if they move forward as fast as they told to their stakeholders then efforts to communicate and traditional marketing with their emotional messages will be wasteful, and often more marketing budgets, exhibition booths and business promotional magazines will strengthen the idea, instead of give assistance to
B2B opportunity for growth in new areas, when faced with more competition of B2C and others, provide a distinctive branding for B2B and a means to attract talent (Wise, 2009).

**Research History**

Makintash et al (2012) based on Erdem and Savit model assess the validity of brand equity. Achieved measuring models have better and worse scaling than models that are based on traditional and confirmatory factor analysis. Mary John Toonen (2010) in a study on the relationship of brand equity and brand loyalty in the market between companies concluded that customer loyalty is part of brand equity and brand image will result in loyalty. It should be noted that product’s brand equity has been developed from product’s brand equity perspective and company's brand equity should also be developed as much as products. Bormann et al (2009) showed that strong brands are created through powerful identity-based management.

The results of research done by Bormann et al (2009) showed that brand identity is the basis for brand image. Organizational knowledge which understands as the concept of unity in the organization occurs when a person's belief is defined about organization as a person. When people recognize the organization, it is likely that they get motivated and behave in accordance with the interests of organization as coherent. Mamby et al (2010) also do a depth investigation on manufacturers and distributors in the market to discover the brand equity. They investigate the brand equity as a one-dimensional structure and pointed out how brand equity is related to production functional, distribution functional, support services as well as corporate functional. The results of brand equity were not investigated and promotion-
al activities such as sales personnel, service campaigns, communications and website as a record of brand equity were not investigated. Da Silva et al (2008) in their study showed that people introduce themselves with what they consume, possess it and those who are associated with them that this resulted in the formation of relationships with brands and these brands reinforce individual's perception of itself and this also strengthen the perception of brand's image.

Yu and Dante (2001), based on the concepts of customer-centric brand equity provided by Keller and Aaker, in their model, brand equity as sum of the average of the three criteria of brand loyalty, perceived quality, brand awareness / brand association. In a study done by Kumar, Lee and Kim (2009), the results indicate that consumers Hindi alone, have a positive impact on their tendency to US goods and tendency to US goods also has a positive impact on perceived quality and emotional value related to US goods. While this effect to local India goods, is negative. Finally, emotional value is an important factor that affects intention to buy both local Indian goods and US goods. The findings Chen and Cheng (2008) investigating the relationship between brand equity and brand preferences and purchase intention of airline passengers indicate that there is a positive relationship between brand equity and brand preference and purchase intention, of course, the cost of changing airline also has a moderating effect on the relationship. For example, when the cost of change is low, the effect on brand equity purchase intention is not significant.
Table 1. Summary of research history

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<tr>
<th>Authors</th>
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<tr>
<td>Salehi and Roushandel Gharrabi</td>
<td>2013</td>
<td>Investigating brand in business model and providing branding model for B2B</td>
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<td>Sadeghiani</td>
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<td>Jafarnejad</td>
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<td>The relationship between brand equity and brand loyalty of firms in the market.</td>
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<td>Brqany and Quah</td>
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Conceptual model

Conceptual model is presented in Figure 1. In this model, B2B brand value is created mainly through the functional quality and feel about the brand. Given that services have more intangible attributes than products the emotional dimension in brand value is of high importance. Emotional features include reducing risk, confidence and trust-building. Also functional features include ability to accept, quality, service capacity, infrastructure, after sales service, service capabilities, innovation and price, reliability. Also in this model market behavior has been considered as a mediating variable. Market share and distribution indices and prices can moderate the impact of functional and emotional characteristics on brand equity. Services that have greater market share in emotional and functional terms are in a better position so this variable may have an impact on their effect. The following model innovation to examine the role of market behavior between emotional and functional factors related to brand equity.
Research Methodology

The present study is of non-experimental research and will be implemented in descriptive – survey method. Data will be collected in library-field method. According to field-library method data are obtained through reference study and data collection from research scale. Also a questionnaire made by researcher is used which included 42 questions and is developed in five-item Likert scale. It should be noted before distributing the questionnaire among sample its validity and reliability is measured and after confirming professors and its appropriate validity then it distributed. The study population is
as a case study and on Chargon Software Company and is obtained using Cochran formula in unlimited society. The number of statistical population is more than 10,000 people that by putting in Cochran formula, the study’s statical population become 386 subjects.

**Results**

**Technical characteristics of the model**

Before examining relationships between variables the technical characteristics of the model must be examined that is described later in this section.

Assessing technical characteristics of measuring model

The quality of measuring model is assessed from the following aspects:

- Reliability
- Convergent validity

Composite reliability coefficients (composite reliability greater than 0.7), and Cronbach's alpha (Cronbach's alpha greater than 0.7) is used to assess the reliability, if they be appropirate we can say that research questionnaire is stable. The extracted average variance is used to determine the convergent validity. The A minimum acceptable level for the average variance extracted is 0.4 (Adcock, 20). Table 2 shows the average variance extracted coefficients, composite reliability and Cronbach's alpha.
As indicated in Table 2 all variables have higher reliability. Composite reliability is higher than 0.7 as well as Cronbach's alpha coefficients in all variables is greater than 0.7, 0.4 and convergent validity is also higher than 0.7. Investigating model relationship

In this section we assess the significance of variables using significance number. In T approach at 95% confidence level relationships which are greater than 1.96 have relationship, otherwise relationship is rejected. Also according to the Netherlands (1999) the minimum acceptable level for each load factor of each of the measures, is equal to 0.4. Considering results the indicators have factor load higher than 0.4 and their T value also is greater than 1.96. Thus, we can conclude that the indices considered for the variable are able to explain their intended factor. Figure 2 shows path coef-
ficient of the research model in standard mode. In standard case numerical comparison of coefficient is possible.

The results show that the amount of emotional variables affect on brand equity is 0.64. Also amount of functional variables affect on brand equity is 0.89. Market behavior plays a positive moderating role between variables emotional and brand equity. On the other hand market behavior plays a negative moderating role between functional emotional and brand equity. According to t-values greater than 1.96 significance of relationships obtained in 95% confidence level is confirmed.

**General fitness of path analysis model**

According to Tnn House (2005) the following formula can be used to measure the appropriateness of model in PLS Given that the minimum acceptable level for to assess these indicators is 0.36 (Akin, bloemhof-Ruwaard, & Wynstra, 2009) and obtained point for this index is 0.6 it can be said that the model fitness is appropriate.

**Conclusion**

In general, value derived from B2B brand is mainly through the performance quality of a product that is performance characteristics of the product. It is also possible that other tangible properties, include the range of after sales service, producer’s benefit and the lead time. This is related to this concept that buying process in B2B is more rational than emotional. In buying a product, the buyer need tangible features to be able to justify their purchase decision and various studies have confirmed the importance of product functional features. While, research confirms that the emotional feature
helps B2B brands, their relative importance in creating brand equity remains elusive. On one hand the brand relationships with customers is determined by evaluations of rational and emotional brand. Although studies have shown that logical assessments were determined by product quality relationships, quality of service and price and emotional assessments affected by differentiation, and credit and covenant.

The results showed that emotional factors along with functional factors determine the brand relations with the buyer. In this study the effect of emotional factors are very strongly influenced by the market behavior and in evaluating brand equity emotional factors are affected by distribution index, the market share. While market behavior negatively affects the brand equity and functional variables which shows that the influence of functional factors is such obvious in market that it can not affected by market behavior. Quality is the most desirable feature of customers to assess brand equity, following reliability, performance, after sales service, ease of operation, ease of maintenance, price, manufacturer reliability and eventually relationship with producer’s personnel are placed on next places. Executive functions related to brand characteristics are generally more important than emotional aspects with less sensitivity. The results show that companies need to provide these tangible and intangible aspects to evoke positive emotions or at least failing to create negative emotions. It is clear that the functional elements of a brand in delivering value to buyers are crucial and decisive. The role of emotions in how to communicate with functional features and how to use by marketers in B2B to deliver brand equity need to invest more.
References


