

Brand Valuation in the Mobile Communications Industry in Iran, Based on Brand Valuation Models

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Abstract

By offering the possibility of accepting the financial value of a brand as a bank guarantee, clear brand value is an advantage in obtaining facilities. Iran's mobile communications industry consists of 3 companies, Hamrah-e-Aval, Irancell and RighTel. These companies have always faced many limitations in the stock exchange market and transactions because of the uncertainty of the value of the company's brand and assets. Therefore, this study aimed to find a suitable brand valuation model, using the Topsis method, to determine the financial value of the brands in Iran's mobile communications industry. Financial information was collected from the Tehran Stock Exchange, the companies' financial experts, and related questionnaires. The valuation model was selected using the Topsis method, and 2 models, intangible business and brand finance, were used for the valuation of the brands. The findings of the research's main model (intangible business) indicated that about 78.1%, 74.6%, and 70% of the stock value (market value) of Hamrah-e-Aval, RighTel and Irancell, respectively, are related to their brands. The results indicate that there is a need to create the necessary accounting infrastructure to insert intangible assets in financial statements through promoting national accounting standards.

Keywords: Brand, Brand Valuation, Mobile Communication Industry, Intangible Business Model, Brand Finance Model, Topsis Model

JEL Classification: G12, L96, M20

Introduction

Currently, because of the significance of brands in the global economic cycle, the valuation of these intangible assets is essential for transactions and examination of

companies' assets. The overall brand value depends on customers' subjective evaluation, beyond the objective brand valuation (Mathur, 2020). However, in the knowledge-based economic era, the ability of organisations in employing intangible assets forms their main power to create value (Aboody & Lev, 1998). In recent years, intangible assets, especially brands, have increasingly been viewed as crucial determinants of firm value (Bagna, Dicuonzo, Perrone & Dell'Atti, 2017); because the brands are more than just a name and a logo, today brands are considered an asset of a company and their valuation affects the company revenue (Agarwal, Chhugani & Wanchoo, 2018). This can induce a shift in the probability distribution of a firm's operating earnings (Bharadwaj, Hanssens & Rao, 2020). Further, the valuation of assets, both securities and real assets, is one of the main factors influencing investment decisions (Mohamadi Shamsabadi, Majedi & Nobakht Ramezani, 2020).

In brand success, the role of brand value has received attention from scholars recently (Gupta, Gallear, Rudd & Foroudi, 2020). Practitioners and scholars have been examining approaches for financially valuing brands from the 1980s (Aaker, 1991; Salinas & Ambler, 2009). Today, value is overlooked and additionally mistook for the commonsense concepts of value, cost, and salary (Özdilek, 2019). Brand value is a significant concept in business activities. Indeed, brand value is the discounted value of the company's contribution through future periods (He & Calder, 2020). Esteban-Bravo and Lado (2011) demonstrated that brand value is the added value to brands in the monetary field. Thus, brand value is decipherable as the money-related advantage for big businesses, made by the brand as resources (Huang,

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2015).

Lately, there has been an unmistakable fascination for brand valuation globally, because of the absence of financial statement acknowledgment for brands (Bagna et al., 2017). On the other hand, executive managers, information analysts, and executives have been enthusiastic about measuring brand value (Tekan, Far, Hajipoormashajee & Heshi, 2012). This valuation can serve in strategic brand management by interior examinations, which will empower the organisations to expand the monetary estimation of the brand (Hasan et al., 2015). In addition, the proper valuation of assets can result in optimal allocation of capital resources (Mohamadi Shamsabadi et al., 2020).

Moor and Lury (2011) found that in a situation where it is envisioned to diffuse the value, however inescapable the expansion of valuation frameworks confirmations, it is a necessity for both new types of estimation (equipped for catching numerous types of significant worth) and for tracking novel methods of connecting estimation and valuation. Thus, assessing brand value is progressively turning into a need, to be sure, not just in light of the exacting meaning of cost about the brand move, but also for monetary purposes emerging from the presentation of tax cuts on salary created by intangible assets (Bagna et al., 2017).

The brand studied here is related to the mobile communications industry. This industry is a services industry (Gupta, 2008; Aghaei, 2020). Influencing by brand power is one of the characteristics of service industries (Krishnan & Hartline, 2001). This industry is one of the key industries in the country and can be a driving force for other advanced technologies in the country. Awareness of real brand value in this industry facilitates the process of legal litigation and business interactions between active companies in this industry, to carry out joint projects (Fernandez, 2001; Andriessen, 2004). Since mobile communications industry needs continuous investment (Gupta, 2008), the final value of the brand can be used as a bank guarantee to obtain facilities (Fernandez, 2001). Moreover, according to article 44 of the constitution of the Islamic Republic of Iran, and the necessity to transfer public bodies to the private sector, it is necessary to conduct studies on the valuation of these organisations (Hanafizadeh & Fazelyniya, 2012; Aghaei, 2020).

Previous studies (Chen & Myagmarsuren, 2011; Wang & Li, 2012; Malik, Ghafoor & Hafiz, 2012) have proved the importance of loyalty, customer satisfaction, and the perceived quality of brand in the communications industry, as well as their positive effects on the brand value in different countries. In addition, several other previous studies (Stahl, Heitmann, Lehmann & Neslin, 2012; Nguyen, Dadzie, Davari & Guzman, 2015; Katsikeas, Morgan, Leonidou & Hult, 2016; Datta, Ailawadi & van Heerde, 2017; Algharabat, Rana, Alalwan, Baabdullah & Gupta, 2020) have investigated that brand valuation and brand equity are based on customer-based approaches. Previous studies have employed non-financial approaches to investigate factors affecting customer attraction and its effect on brand value. Thus, studies with financial and brand valuation approaches are needed. Findings of this study can be of great interest to brand financial issues followers, and particularly to researchers working on assets valuation.

In recent years, companies in the mobile communications industry in Iran have always faced many problems and limitations in the stock exchange market and transactions, because of the uncertainty of the value of the company's brand and assets; for this reason, this sector has been selected for this study. Further, in spite of the growing importance of brand valuation, there is no evidence that clearly indicates which brand evaluation methodology is more reliable (Bagna et al., 2017). Iran's mobile communications industry consists of three companies, Hamrah-e-Aval, Irancell and RighTel. Examining brand value has become a necessity for them. Thus, the valuation of these 3 brands has been discussed. According to the stated problem, the objective of this study is to investigate approaches and models for financial valuation of the brand according to ISO10668 standards in the mobile communications industry in Iran; to select a suitable approach and model through meetings with accounting and marketing experts of this industry and using the Topsis method; and finally, to calculate brand's valuation in Iran's mobile communications industry.

Theoretical Development

Brand

Before evaluating any asset, they ought to be characterised cautiously (Aghaei, 2020). However, different

specialists do not appear to concede to what a brand ought to be characterised as (Jones & Bonevac, 2013), starting from the late 1950s, when David Ogilvy made brand picture publicised (Kicova & Kramarova, 2013). With the enhancement of trade, “brand” has come to mean and be applied to isolate one’s item from different organisations that created comparable items (Majerova & Kliestik, 2015). American Marketing Association proposes that a brand is “a name, term, sign, symbol or design, or a combination of them, intended to identify the goods or services of one seller from those of competitors”. This is restricting and old (Veloutsou & Delgado-Ballester, 2018).

Brand and branding are the touch points of advertising belief systems and practices (Golob, Davies, Kernstock & Powell, 2020). The brand is an intangible asset (or liability) that influences income (Wasserman, 2015). Brand management is not only critical for products, but also essential for services (Mathur, 2020). Most businesses continue to treat branding activities as expenses (costs), but there is a growing movement to treat them as financial assets (He & Calder, 2020). Along these lines, organisations need solid brands, which with resources should be built into a quality brand. It should also lead to positive evaluation and brand support from different gatherings, for instance, customers and workers, giving the business sector power (Veloutsou & Delgado-Ballester, 2018). Thus, brand valuation is fundamental for any organisation.

Brand Valuation Approaches

Throughout the years, the concept of brand valuation has developed and has numerous parts (Agarwal et al., 2018). Brand valuation refers to the overarching way of describing the value estimation of a given brand (Chen, He, Hu & Kim, 2020). Brand valuation has become an ordinary apparatus for surveying organisation execution, identified with marketing and advancements (Wasserman, 2015), and it assumes a significant key job today as to showcasing, bookkeeping, the executives, mergers, and acquisitions (Hasan et al., 2015). In reality, value is a key idea for scientists and professionals in the fields of methodology, promoting, and evaluating (Johansson, Keränen, Hinterhuber, Liozu & Andersson, 2015). The

appraisal is by budgetary investigators and advertisers of brand value, who consider different variables, including the intensity of a brand and the brand’s development potential (Wasserman, 2015).

Individuals from the International Accounting Standard (IASB) (2006) imagine that a universal valuation technique would be a smart idea to achieve equivalence and valuation of brand resources (Hasan et al., 2015). To affirm the significance of this view, Kirk, Ray and Wilson (2013) found that the brand’s esteem is relieved by the business impact: the relationship between brand value and stock costs is more grounded for customer firms and not noteworthy for mechanical firms (Bagna et al., 2017). Likewise, Wasserman (2015) reasoned that extra reports ought to be incorporated close by, in budget summaries, to record brand value independently from different explanations.

Salinas and Ambler (2009) classified brand valuation methods, in terms of functions, into technical and commercial categories. Technical valuation is used in financial reports and commercial valuation is used in determining brand structure and market strategy (Haigh & Knowles, 2004). According to the objectives, there are 2 general views to investigate brand value (Kamakura & Russell, 1993; Aghaei, 2020). First, models with a customer-oriented approach that include conceptual and behavioural dimensions of customers (Gustafsson, Edvardsson, Bamert & Wehrli, 2005). The second is related to the models with a financial approach (corporate) (Xu & Chan, 2010). In this study, technical function and financial approach are taken into consideration.

As one of the best categories in the context of valuation approaches, the classification proposed by Chiu and Chen (2007) points out that it includes market-oriented approach, cost-oriented approach, income-oriented approach, uncertainty approach, time approach, and according to cash flows, real-authority approach and flexibility approach.

The International Valuation Standards Council (IVSC) recognises 3 main approaches to valuation: the income, cost, and market approach (Intangible Business, 2001; Salinas & Ambler, 2009; French & Sloane, 2018; Chen et al., 2020). In Table 1, the advantages and disadvantages of these approaches are presented.

Table 1: Advantages and Disadvantages of Brand Valuation Approaches (ISO10668)

Method	Description	Advantages	Disadvantages
Costs	In this approach, brand value is measured according to the costs occurred for its creation or replacement or recreation costs.	<ol style="list-style-type: none"> 1. Investigating accounting and legal standards. 2. Suitable when there is no market information for making a comparison with similar brands. 3. Application when legal conflicts claims and brand intellectual property infringements occur. 	<ol style="list-style-type: none"> 1. No relationship between brand achievement cost and future profits. 2. Difficulty in accurate estimation of costs. 3. Difficulty in replacing brand just through spending money.
Market	Its measurement is based on the money paid by other customers in similar markets. With this approach, it is possible to predict brand sales price.	<ol style="list-style-type: none"> 1. Suitable when a similar brand exists in the market. 2. Similar market method. 3. Market method based on real information of transactions. 	<ol style="list-style-type: none"> 1. Lack of access to transactions information of similar brands. 2. Unique features of each brand. 3. Difficulty in comparing the brands. 4. Difficulty in determining the market value.
Income	In the income approach, brand value, present value, and pinterests forecasted in the economic life are left. In this approach, we are looking for the forecasted cash flow, after tax decution.	<ol style="list-style-type: none"> 1. Using this method in every stage of brand maturity. 2. Complete brand risk reflector (even old brands). 	<ol style="list-style-type: none"> 1. Inability to obtain accurate information. 2. Requiring sufficient information in the context of competitive market. 3. Reliance of this method on income forecasts in the future.

Among the 3 approaches to brand valuation, 2 approaches, cost and market, are the methods used to control and determine the range of brand value. These approaches are also used to determine brand interest, which requires evaluating the value and interests of the brand over the life of the brand and measuring its future values. In addition to the advantages of the proposed revenue method in Table 1, it should be noted that one of the main issues and frameworks of valuation for valid brands is based on the income method that is compatible with the approaches of the companies in Iran's mobile communications industry, and according to the table, it has more advantages and fewer disadvantages.

Moreover, Fanatics counselling and training institute believes that a method is suitable for the communications industry valuation that has a revenue approach and is based on DCF estimation (Finaticsonline, 2012). Therefore, having an income-oriented approach is one of the features of the selected method. As a result, the model for brand valuation in Iran's mobile communications industry should be based on the income approach.

Brand Valuation Models

Various models are proposed to evaluate intangible assets (Aaker, 1991). However, all methods cannot be implemented in the communications industry. A

suitable method should be consistent with the objectives of valuation and features of the industry under study (Aghaei, 2020). A number of models and techniques have since evolved over time, but at the same time it has been difficult to find a suitable and reliable valuating method (Salinas & Ambler, 2009).

With this thought, Seetharaman et al., in 2001, said that a standardised principle was needed for brand valuation, so that companies can ensure stability and reliability. Despite this, problems remained for years (till 2007), which led to an initiative to develop another standard for brand valuation (Treffner, 2011). In 2007, the International Organisation for Standardisation began work on developing one standard for brand valuation (SIS, 2010). The international standard "ISO 10668 requirements for monetary brand valuation" was introduced in 2010, to develop transparent and reliable valuation methods for valuating brands (Andersson & Dahlberg, 2016; Aghaei, 2020). There are 5 new "general requirements", also called standard five pillars, for this valuation. These are: validity, transparency, reliability, sufficiency, and objectivity (Strömberg & Casselfelt Ronér, 2014).

Salinas and Ambler (2009) proposed standard and suitable methods for technical application in 8 models: the models of AUS consultants, Houlihan advisors, BEVA (BBDO), Absolute Brand, Brand Finance, Consor, Kern's X-times, and Intangible Business. However, to

select the best method from these models, awareness of the communications industry and consistency of models with the features of this industry are necessary. In the following sections, the features of this industry are pointed out. The mobile communications industry is a subset of the communications industry. If we want to summarise the main features of the communications (or mobile communications) industry, they include services (Gupta, 2008), credit (Bharadwaj, Varadarajan & Fahy, 1993), search, and experience (Krishnan & Hartline, 2001). Search features indeed state the opinion of customers.

Nimako (2012) proved that service quality has a direct effect on customer loyalty and brand value.

Methodology

The objective of this study is to find a suitable brand financial valuation approach and the model uses the Topsis method, based on ISO10668 standard, in the mobile communications industry and brand valuation in Iran's mobile communications industry. In terms of objectives and data collection, this study is an applied and descriptive-survey study. Necessary financial information was collected from the Tehran Stock Exchange, the 3 companies' financial experts, and related questionnaires through field studies. The statistical population of this study included all credit and permanent customers of Iran's mobile communications industry in Tehran, and experts, analysts of those companies, and the mobile communications industry.

General steps of this study are as follow:

Step 1: Investigated the theoretical foundations, and found a suitable application and approach for brand valuation in this study.

Step 2: Investigated brand valuation models and 8 models by Salinas and Ambler (2009); investigated these methods with the features of this industry, and selected the best methods for brand valuation in this study.

Step 3: Financial valuation of the brands with the selected methods.

For the valuation process, in the first step, a questionnaire should be designed to measure the brands' power. The questionnaire included 3 sections. Section 1 includes demographic questions, section 2 includes 25 questions related to 6 factors: identification, communication, satisfaction, differentiation from competitors, loyalty, and performance, to measure the brand strength analysis index in the intangible business method. Section 3 includes 13 questions related to 3 factors: performance, brand equity, and brand marketing investment, to measure the brand strength index of these 3 brands in the brand finance method. The validity of the questionnaire was confirmed by a panel of experts who are active in the brand management context of Iran's communications industry. CVI = 0.792, and to examine the reliability, Cronbach's alpha was used and it was estimated using SPSS 24 as 0.9. This confirms the reliability of the questionnaire. Due to the unlimited statistical population size (employing Cochran formula, sample size equal to 379), 500 paper-based questionnaires were distributed using random sampling. Finally, 500 complete questionnaires were selected and analysed. According to market shares of Hamrah-e-Aval (60%), Irancell (37%), and RighTel (3%), this point should be taken into consideration during distribution and collection of questionnaires, and the results should be consistent with the realities of the market. As a result, from 500 questionnaires, 278, 153, and 69 questionnaires were related to Hamrah-e-Aval, Irancell, and RighTel, respectively (RighTel questionnaires, due to observing the central limit rule, are considered more than its market share).

Data Analysis and Results

In this study, the valuation method was selected according to the features of the communications industry and research objectives. Eight methods proposed by Salinas and Ambler (2009) that were mentioned in the valuation models section have the technical features and can be evaluated according to the main features of the communications industry and revenue approach. These eight methods are compared (Table 2), in terms of having the proposed features for the mobile communications industry (Salinas, 2009).

Table 2: Comparison of the Brand Valuation Methods Characteristics in the Communications Industry

Models	Credit	Services	Search	Experience	Income Approach	Technical Application
BEVA (BBDO)	Much	Medium	Very low	Very much	Low	Much
AUS Consultant	Very much	Much	Very low	Very low	Much	Much
Houlihan Advisor	Very much	Much	Very low	Very low	Much	Much
Brand Finance	Medium	Very much	Very low	Much	Much	Much
Conсор	Medium	Medium	Very low	Very low	Medium	Much
Intangible Business	Very much	Very much	Very low	Very much	Much	Much
Absolute Brand	Medium	Medium	Very low	Very low	Medium	Much
Kern's X-times	Medium	Very much	Very low	Much	Medium	Much

Now, according to the features presented in Table 2, the best method should be selected. In this study, the Topsis method was used to determine the best valuation method. In this method, there are compensatory indexes; this means that a relative high score of an index in a method can compensate the low scores of another person for that method (Aruldoss, Lakshmi & Venkatesan, 2013). In this study, the selected method should have a relative advantage. Therefore, to determine a suitable valuation method, the Topsis method was used. Through performing estimations related to this method, according to Table 2, the score and relative advantage of each model is as follows:

$$CL_{i+} = \{0.6281, 0.4630, 0.4511, 0.7072, 0.2481, 0.9143, 0.2481, 0.6389\}$$

According to the scores, intangible business and brand finance are two top methods of the decision-making matrix. To ensure the results, comparison, and validation of the final value, 2 separate methods were used to determine brand value.

In the following section, the steps of the brand valuation process, based on intangible business model (Salinas & Ambler, 2009) and brand finance model (Brand Finance, 2019), with the related relationships, were implemented and the results are described.

Intangible Business Model

Step 1: Brand Strength Analysis Index

To calculate the brand strength index, the relative analysis calculation approach is used. In this regard, the questionnaire to investigate the views of the customers was used. In order to estimate the scores of each index, in a five-point Likert scale, the mean of the factor of interest is calculated according to the status of items that investigate that factor, and finally, the mean of the resulted

factors is calculated. The highest brand score among these 3 brands (that is, the mean score of 6 dimensions stated in the model) will be compared as the reference, and is used to obtain the brand strength index of other brands in the mobile communications industry. The results of the 6 factors questions and brand strength analysis index of these 3 brands are presented in Table 3.

Step 2: Royalty Rate

The brands' royalty rate of Hamrah-e-Aval, Irancell, and RighTel are calculated in Table 3, and these are obtained according to the following simple formula. According to the decisions made by the financial deputy of these 3 brands and the expert meetings, to achieve the royalty rate of brands, in the intangible business model, minimum and maximum penetration coefficients that influence the range are 5 and 10, respectively. Minimum penetration coefficient (5%) and maximum (10%) are used. The process of brand royalty rate calculation in this research is presented in the following relation.

$$\text{Brand royalty rate} = \text{Royalty range} \times \text{Brand strength analysis index} \quad (1)$$

Table 3: Brand Strength Analysis Index and Brand Royalty Rate

Sr. No.	Factors	Hamrah-E-Aval	RighTel	Irancell
1	Identification	11.73	9.83	11.27
2	Communication	12.70	10.53	13.28
3	Satisfaction	13.45	10.86	14.71
4	Differentiation	12.31	10.23	12.34
5	Loyalty	13.18	10.13	12.57
6	Performance	16.23	11.73	16.47
Points average		13.38	10.59	13.44
Points normalise		99.55	78.79	100
Brand royalty rate		9.9%	7.8%	10%

According to the computational formulae to limit the brand royalty range, employing internalisation and externalisation methods and using the questionnaire related to BSI to achieve optimal royalty rate with the minimum error rate, according to the experimental rule, data monitoring is carried out through brand strength. According to the results of this questionnaire, BSI or mean scores of factors considered for Hamrah-e-Aval, Irancell and RighTel are 99.55, 100, and 78.79, respectively, and for this reason, brand royalty rates are considered to be 9.9%, 10% and 7.8% respectively.

Step 3: Forecast Revenues

To calculate future revenues, it is necessary to be informed of the growth rate of the companies. In the current study, since information related to future revenue forecast is completely available for Hamrah-e-Aval, Irancell and RighTel, and confirmed by their systems, the related methods are used and forecast revenue data for 2020 to 2024 are received from these companies.

Step 4: Brand Profit (Cash flow)

In this step, brand profit is calculated from multiplying revenue and brand royalty rate. Brand profit is presented in Table 4.

$$\text{Brand profit} = \text{Forecast revenues} \times \text{Brand royalty rate} \quad (2)$$

Table 4: Brand Profit (Billion Rials)

Calculation Process	Brand	2020	2021	2022	2023	2024
Revenue	Hamrah-E-Aval	176000	198970	228400	262100	301420
	RighTel	78950	99860	120620	151180	169890
	Irancell	109270	131040	163680	199150	240100
Brand royalty rate	Hamrah-E-Aval	9.9%	9.9%	9.9%	9.9%	9.9%
	RighTel	7.8%	7.8%	7.8%	7.8%	7.8%
	Irancell	10%	10%	10%	10%	10%
Brand profit	Hamrah-E-Aval	17424	19698	22611	25947	29840
	RighTel	6158	7789	9408	11792	13251
	Irancell	10927	13104	16368	19915	24010

Step 5: Post-Tax Profit

To achieve the post-tax profit, tax rates in each year should be estimated considering brand cash flow as taxable

revenue and deducted from the calculated number in the third step. The post-tax profit for the brands is presented in Table 5.

$$\text{Post-tax profit} = \text{Brand profit} - \text{Tax} \quad (3)$$

Table 5: Post-Tax Profit (Billion Rials)

Calculation Process	Brand	2020	2021	2022	2023	2024
Brand profit	Hamrah-e-Aval	17424	19698	22611	25947	29840
	RighTel	6158	7789	9408	11792	13251
	Irancell	10927	13104	16368	19915	24010
Tax	Hamrah-e-Aval	9900	11190	12850	14740	16950
	RighTel	2771	3505	4233	5306	5963
	Irancell	5682	6814	8511	10355	12485
Post-tax profit	Hamrah-e-Aval	7524	8508	9761	11207	12890
	RighTel	3387	4284	5175	6486	7288
	Irancell	5245	6290	7857	9560	11525

Step 6: Cost of Capital

Cost of capital is the cost of the resources used to finance a business. To calculate shareholders' cost of capital, the current model uses (CAPM) capital asset pricing model, as follows:

$$r_e = r_f + \beta(r_m - r_f)$$

r_e : is the expected returns or the cost of capital; r_f : is risk-free interest rate; r_m : is expected market return; β is risk coefficient; $r_m - r_f$: risk taking. (4)

The cost of debt capital calculation is performed according to the last financial statement forecast of brands. In practice, to achieve the cost of capital, the method used for Hamrah-e-Aval, Irancell and RighTel was employed because of high accuracy and the expert opinion of “accounting and management” managers in these 3 companies. Accordingly, the cost of capital reported by the expert team of Hamrah-e-Aval, Irancell and RighTel, consistent with the available approaches to finance and accounting, was 0.24, 0.26 and 0.29 respectively.

Step 7: Present Value of Brand Profit

For discounted cash flow after taxes to the present time, having a discount factor for this period (2020 to 2024) is necessary and information related to this index was received from Hamrah-e-Aval, Irancell and RighTel. To achieve the 5-year flow of these brands in 2019, the total current value of profits for the period 2020 to 2024 should be calculated. The current profit value for these three brands is presented in Table 6.

Present value of brand profit = Post-tax profit ÷ Discount factor (5)

Table 6: Present Value of Brand Profit (Billion Rials)

Calculation Process	Brand	2020	2021	2022	2023	2024
Post-tax profit	Hamrah-e-Aval	7524	8508	9761	11207	12890
	RighTel	3387	4284	5175	6486	7288
	Irancell	5245	6290	7857	9560	11525
Discount factor	Hamrah-e-Aval	1.2	1.44	1.73	2.07	2.49
	RighTel	1.2	1.44	1.73	2.07	2.49
	Irancell	1.2	1.44	1.73	2.07	2.49
Present value of brand profit	Hamrah-e-Aval	6270	5908	5642	5414	5176
	RighTel	2822	2975	2991	3133	2927
	Irancell	4371	4368	4541	4618	4628
Brand's five-year flows in 2019	Hamrah-e-Aval					28410
	RighTel					14848
	Irancell					22526

Step 8: Final Value of Revenues

In this step, it is necessary to calculate final value of revenues and discount them to the present. The final value calculation is performed through the Gordon formula.

$$V = \frac{D_0 (1 + g)}{k_e - g} = \frac{D_1}{k_e - g} \quad (6)$$

D_1 : expected dividend per share; K_e : expected return rate; g : growth rate (GDP); V : final value of company's revenue.

According to the presented formula, to calculate the final value of revenues, the expected dividend per share that is obtained from the financial statements of these 3 companies, as well as the growth rate of Iran's communications industry are required. Since EPS or earnings per share for Hamrah-e-Aval, Irancell, and RighTel in 2019 were 37,070, 29,650 and 19,170 billion rials, respectively, and as in the Gordon formula, the expected dividend per share for these companies are

needed, the expected dividend per share or DPS for Hamrah-e-Aval, Irancell and RighTel are 85%, 81% and 79% of EPS of these companies, respectively. Therefore, the expected DPS in 2019 for these companies are 31,509.50, 24,017 and 15,144 billion rials, respectively. In addition, the growth rate of Hamrah-e-Aval, Irancell and RighTel are 1%, 1.5% and 1.2% respectively. Moreover, in this formula, the expected return rate is equivalent to the cost of capital that was calculated by the experts of these three companies as 0.24, 0.26 and 0.29 respectively. Therefore, according to the Gordon formula, the final value of revenues of these companies is equivalent to 1,36,997.82, 98,028.57, and 54,474.82 billion rials, respectively.

Step 9: Brand Value

In the last step, brand value is obtained from the sum of the value of the brand's five-year flows in 2019 and the discount final value (output of step 8) that is presented in Table 7.

Table 7: Brand Value (Billion Rials)

Calculation Process	Brand	2019
Brand's five-year flows in 2019	Hamrah-e-Aval	28410
	RighTel	14848
	Irancell	22526
Discount final value in 2019	Hamrah-e-Aval	136997.82
	RighTel	54474.82
	Irancell	98028.57
Brand's total value in 2019	Hamrah-e-Aval	165407.82
	RighTel	69322.82
	Irancell	120554.57

In the final step, the values that are calculated as the total brand value are related to intangible asset flow. As a result, consistent with the final goal of this study, the brands Hamrah-e-Aval, Irancell and RighTel, as the active brands in the mobile communications industry in Iran, were evaluated at 1,65,407.82, 1,20,554.57 and 69,322.82 billion rials, respectively, in August 2019.

Further, brand value is a part of market value. Indeed, market value is equivalent to multiplying the present value of a share by the number of shares issued by a company. According to a report by the Tehran Stock Exchange (TSE), in August 2019, the market value of Hamrah-e-Aval, Irancell and RighTel were equivalent to 2,11,641, 1,71,984 and 92,832 billion rials, respectively.

Comparison of market value and brand value of the companies are shown in Fig. 1.

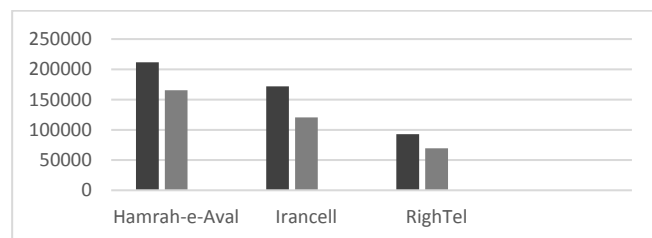


Fig. 1: Comparison of Market Value and Brand Value of the Mobile Communications Companies in Iran (Billion Rials)

Brand Finance Model

The following are the steps of brand value calculation for Hamrah-e-Aval, Irancell and RighTel, presented using the brand finance method (Brand Finance, 2019).

- *Brand Strength Index*: Evaluate brand strength utilising a reasonable scorecard of measurements, evaluating advertising venture, partner value, and business performance.
- *Royalty Range*: This is accomplished by exploring similar authorising understandings sourced from brand finance's broad database.
- *Royalty Rate*: BSI score is applied to the royalty range to show up at a royalty rate.
- *Brand Share of Holding Share*: Evaluate brand-explicit incomes by evaluating the extent of parent company incomes owing to a brand.
- *Forecast Revenues*: Evaluate predicted incomes utilising a component of notable incomes, value examiner gauges, and financial development rates.
- *Brand Revenue*: Apply the royalty rate to the predicted incomes to infer brand incomes.
- *Brand Value*: Brand incomes are limited post-taxation to a net present value that is equivalent to the brand value.

The process of brand value calculation for these three brands are summarised in Table 8 using the brand finance method.

Table 8: Brand Valuation using Brand Finance Model (Billion Riials)

Step	Method	Brand	2020	2021	2022	2023	2024
BSI	Questionnaire and balanced scorecard	Hamrah-e-Aval	92.26%	92.26%	92.26%	92.26%	92.26%
		RighTel	75.02%	75.02%	75.02%	75.02%	75.02%
		Irancell	93.04%	93.04%	93.04%	93.04%	93.04%
Royalty Range	From brand finance's extensive database	Hamrah-e-Aval	10%	10%	10%	10%	10%
		RighTel	10%	10%	10%	10%	10%
		Irancell	10%	10%	10%	10%	10%
Royalty Rate	Royalty range × BSI	Hamrah-e-Aval	9.2%	9.2%	9.2%	9.2%	9.2%
		RighTel	7.5%	7.5%	7.5%	7.5%	7.5%
		Irancell	9.3%	9.3%	9.3%	9.3%	9.3%
Brand Share of Holding Share	These companies only operate with its brands	Hamrah-e-Aval	100%	100%	100%	100%	100%
		RighTel	100%	100%	100%	100%	100%
		Irancell	100%	100%	100%	100%	100%
Forecast Revenues	Information on the financial statements of these companies	Hamrah-e-Aval	176000	198970	228400	262100	301420
		RighTel	78950	99860	120620	151180	169890
		Irancell	109270	131040	163680	199150	240100
Brand Revenue	Forecast revenues × Brand royalty rate	Hamrah-e-Aval	16192	18305	21012	24113	27730
		RighTel	5921	7489	9046	11338	12741
		Irancell	10162	12186	15222	18521	22329
Brand Value	Tax	Hamrah-e-Aval	9229	10433	11976	13744	15806
			2664	3370	4070	5102	5733
			5284	6336	7915	9631	11611
	Brand revenue – Tax (Post-tax revenue)	Hamrah-e-Aval	6963	7872	9036	10369	11924
			3257	4119	4976	6236	7008
			4878	5850	7307	8890	10718
	Discount factor	Hamrah-e-Aval	1.2	1.2	1.44	1.73	2.07
			1.2	1.44	1.73	2.07	2.49
			1.2	1.44	1.73	2.07	2.49
	NPV=	Hamrah-e-Aval	5802	5467	5223	5009	4789
			2714	2860	2876	3012	2814
			4065	4062	4224	4295	4304
Hamrah-e-Aval	26290						
RighTel	14276						
Irancell	20950						

The results of measuring the models are presented in Tables 7 and 8. Therefore, the selected models, based on the Topsis method, calculated the brands' value for Hamrah-e-Aval, Irancell and RighTel very well. The difference between the results of methods in brands valuation is due to the structural difference between the methods and the difference in calculations, according to the difference in the application of these methods. These differences are quite normal.

Discussion and Conclusions

The financial value of the brand is used in strategic management, financial interactions and litigations, and clarity of this value is an advantage in obtaining facilities. Iran's mobile communications industry includes three brands: Hamrah-e-Aval, Irancell and RighTel. These companies have a lot of financial problems, so the valuation of the financial value of these brands is very

important. This is the reason these 3 companies have been selected for this study. According to the importance of subject and lack of attention to financial approach in brand value, this study aimed to find a suitable approach and model for brands' financial valuation using the Topsis method according to ISO 10668 standard and brands' valuation in the mobile communications industry of Iran using this approach and model. Consistent with the research objectives, after determining the revenue approach and investigating the features of brands in the mobile communications industry in Iran, using the Topsis method, intangible business model, to enhance the validity of the results and brand finance model were selected and implemented.

According to the results of these models, financial valuation of Hamrah-e-Aval, Irancell and RighTel brands consistent with the intangible business method, respectively, are 1,65,407.82, 1,20,554.57 and 69,322.82 billion rials in August 2019, and according to the brand finance method, these are 26,290, 20,950 and 14,276 billion rials, respectively. Comparison and validation of the results of these two methods show that the differences in values are due to the structural differentiation and differences in the calculation of models, and these are justifiable. The intangible business model is more complete and accurate, and this difference in values indicates the weakness of the brand finance model. Therefore, we consider the results of the intangible business model, which is also the first model of this research, as the main value of brands. Further, in August 2019, the market value of the companies, Hamrah-e-Aval, Irancell and RighTel, were equivalent to 2,11,641, 1,71,984 and 92,832 billion rials, respectively. This means that about 78.1%, 70% and 74.6%, respectively, of market value in these companies are related to their brands. In addition, in Iran's mobile communications industry, Hamrah-e-Aval has the highest brand value.

Generally, in comparing the results of this study with other studies, it can be said that studies in this context (Chen & Myagmarsuren, 2011; Stahl et al., 2012; Wang & Li, 2012; Malik et al., 2012; Nguyen et al., 2015; Katsikeas et al., 2016; Datta et al., 2017; Algharabat et al., 2020) have investigated brand value from the perspective of customers with a non-financial approach to brand value; therefore, brand valuation with a financial approach, and study of the brands in Iran's mobile communications industry are the important innovations in this study. This

study can supplement past studies in this area. It can help companies determine the value of their brand and assets.

Calculating numbers are not the end of valuation. Brand strength evaluation is a tool, which points to creating valuable and durable brands. Lack of brand value report causes problems such as lower company valuation. Therefore, it is suggested to create necessary accounting infrastructures to insert intangible assets in financial statements, by promoting national accounting standards. Moreover, it is suggested that companies in the mobile communications industry estimate and analyse brand valuation every 6 months, and perform brand valuation at different intervals according to different situations.

The limitations of this study included a lack of studies on brand valuation in the communications industry, difficulty in data collection, and defects in the financial information of active companies in Iran's mobile communications industry.

For future studies, it is recommended to classify valuation methods with the financial approach in different studies, compare the results of brand value with components such as market value, and compare the brands in Iran's communications industry with foreign brands in this industry.

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