

## A study on the effects of advertisement on brand equity: Evidence from mobile industry

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### ABSTRACT

This paper presents an empirical investigation to study the effects of advertisement on brand equity. The study has accomplished on two well-known brands in mobile providers in city of Tehran, Iran. The study uses Aaker's model to examine the effects of advertisement on various factors such as brand awareness, quality perception, brand loyalty and brand associate. The study also investigates the effects of brand awareness, quality perception and brand associate on brand loyalty. The results of our survey have concluded that advertisement could influence on some of the components of brand equity, significantly. For the first case study of this survey, Irancell, advertisement influences on brand awareness, brand quality and brand associate, significantly. In addition, brand awareness and brand loyalty also influence on brand quality and brand equity, positively. For the second case study of this survey, Mobile Telecommunication Company of Iran, the effects of advertisement on brand equity, brand awareness and brand associate have been confirmed. Moreover, brand awareness and brand quality influence on brand loyalty, positively. In addition, brand loyalty influences positively on brand equity.

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## 1. Introduction

Advertisement plays essential role on business development across the world. Advertisement can introduce the product and services to existing customers and attract new customers (Belch et al., 2008). Advertisement may increase people's awareness; gives more information about quality and helps building brand associate. Ghorbanifard et al. (2014) studied the impacts of various factors including brand awareness, quality perception, brand associate and brand loyalty on developing tourism economy. Azad et al. (2013) investigated the effect of new methods of advertisement in product development. In their study, there were six important factors impacting in product development, including modern advertisement techniques, emotional impact, strategy of market leadership, pricing strategy, product life chain and supply entity. Andreyeva et al. (2011) investigated the effect of food advertisement on children's diet and reported that soft drink and fast food television advertising was associated with increased consumption of these kinds of foods.

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During the last few years, there has been growing competition between two Iranian mobile service providers including Telecommunication Company of Iran (MCI), known as Hamrah-e-Avval, and Irancell in Iran. The competition is so tough that both service providers spent significant amount of money on marketing planning. Therefore, it is necessary to find important factors influencing on better marketing planning. Hozouri and Pazuki (2014) presented an investigation to analyze the impacts of marketing communications on market share adjustment. The study used principle component analysis and detected four factors environment issues, marketing organization, market development and relationship oriented. Blois and Ramirez (2006) studied different capabilities as marketable assets. Dutta et al. (2005) investigated different capabilities of advertisement and their effects of product development. According to Varadarajan and Yadav (2009), marketing strategy and operations could be even more extensively integrated in the internet-based market environment. Kalaighnam et al. (2008) focused on leveraging the effect of internet for enhancing the efficiency of a business' marketing operations.

## 2. The proposed study

This paper presents an empirical investigation to study the effects of advertisement on brand equity. The study has accomplished on two well-known brands in mobile providers in city of Tehran, Iran. The study uses Aaker's model (Aaker, 2008, 2009; Aaker & Keller, 1990) to examine the effects of advertisement on various factors such as brand awareness, quality perception, brand loyalty and brand associate. The study also investigates the effects of brand awareness, quality perception and brand associate on brand loyalty. The main hypothesis of the survey considers the effects of advertisement through brand equity figures on customers' brand equity. The study considers the following sub-hypotheses,

1. Advertisement influences positively on brand awareness.
2. Advertisement influences positively on perception quality.
3. Advertisement influences positively on brand loyalty.
4. Advertisement influences positively on brand associate.
5. Brand awareness influences positively on brand loyalty.
6. Quality perception influences positively on brand loyalty.
7. Brand associate influences positively on brand loyalty.
8. Customer loyalty influences positively on brand equity.

The study is distributed among two well-known mobile service providers; namely Hamrah Aval and Irancell in city of Tehran, Iran. The sample size is calculated as follows,

$$N = Z_{\alpha/2}^2 \frac{p \times q}{e^2}, \quad (1)$$

where  $N$  is the sample size,  $p = 1 - q$  represents the probability,  $z_{\alpha/2}$  is CDF of normal distribution and finally  $e$  is the error term. For our study we assume  $p = 0.5$ ,  $z_{\alpha/2} = 1.96$  and  $e = 0.05$ , the number of sample size is calculated as  $N = 384$ . Cronbach alphas for two groups are calculated and Table 1 demonstrates the summary of our results.

As we can observe from the results of Table 1, all components maintain desirable values and we can therefore use structural equation modeling (SEM) to examine the hypotheses of the survey. The implementation has accomplished using AMOS software and next, we present details of our findings.

**Table 1**  
The summary of Cronbach alpha

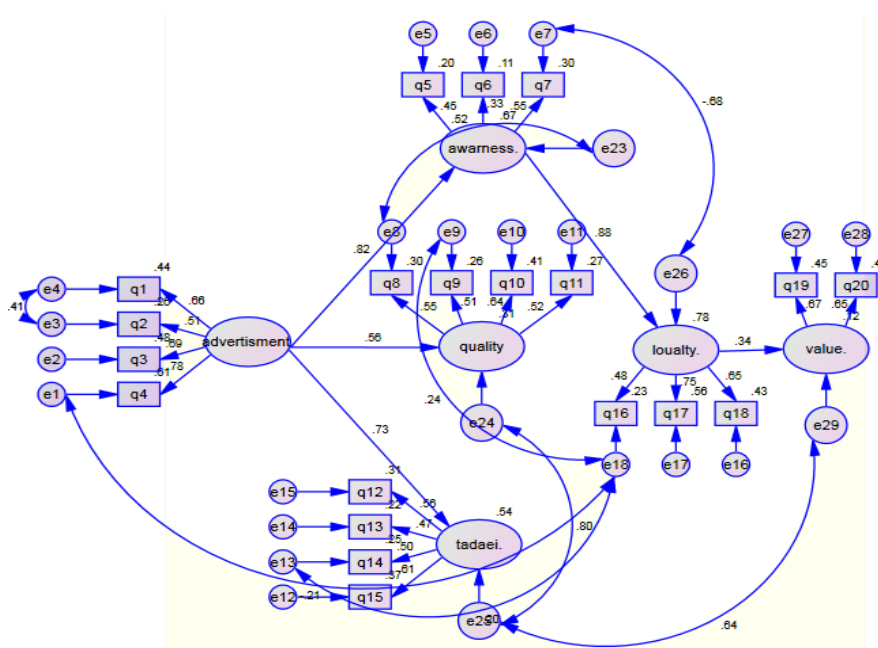
Irancell					Hamrah-e-Avval				
Variable	Q	Factor loading	Alpha	AVE	Variable	Q	Factor loading	Alpha	AVE
Advertisement	1	0.84	0.80	0.62	Advertisement	1	0.84	0.80	0.63
	2	0.76				2	0.76		
	3	0.79				3	0.80		
	4	0.77				4	0.77		
Brand awareness	5	0.69	0.72	0.51	Brand awareness	5	0.73	0.72	0.50
	6	0.64				6	0.68		
	7	0.81				7	0.70		
Quality perception	8	0.74	0.76	0.50	Quality perception	8	0.75	0.75	0.54
	9	0.72				9	0.74		
	10	0.73				10	0.76		
	11	0.63				11	0.68		
Brand associate	12	0.68	0.70	0.50	Brand associate	12	0.72	0.74	0.52
	13	0.70				13	0.58		
	14	0.65				14	0.65		
	15	0.78				15	0.89		
Brand loyalty	16	0.66	0.76	0.59	Brand loyalty	16	0.71	0.70	0.62
	17	0.84				17	0.83		
	18	0.80				18	0.82		
Brand equity	19	0.85	0.71	0.72	Brand equity	19	0.81	0.72	0.70
	20	0.85				20	0.86		
Total				0.88					0.87

**3. The results**

In this section, we present details of our findings on testing various hypotheses of the survey. In our survey, we first use a basic model and then by making some modifications we reach a final model.

*3.1. The first case study: Irancell*

We first present details of the implementation of the final SEM model for Irancell firm. Irancell is the second largest mobile phone network operator of Iran. It is 49% owned by the South Africa-based MTN Group. Fig. 1 demonstrates the results of our findings.



**Fig. 1.** The results of standard coefficients (tadaei: Brand associate)

In addition, Table 1 demonstrates the results of coefficients. As we can observe from the results of Table 1, five hypotheses have been confirmed. In other words, advertisement influences on brand

awareness, brand quality and brand associate, significantly. In addition, brand awareness and brand loyalty also influence on brand quality and brand equity.

**Table 1**

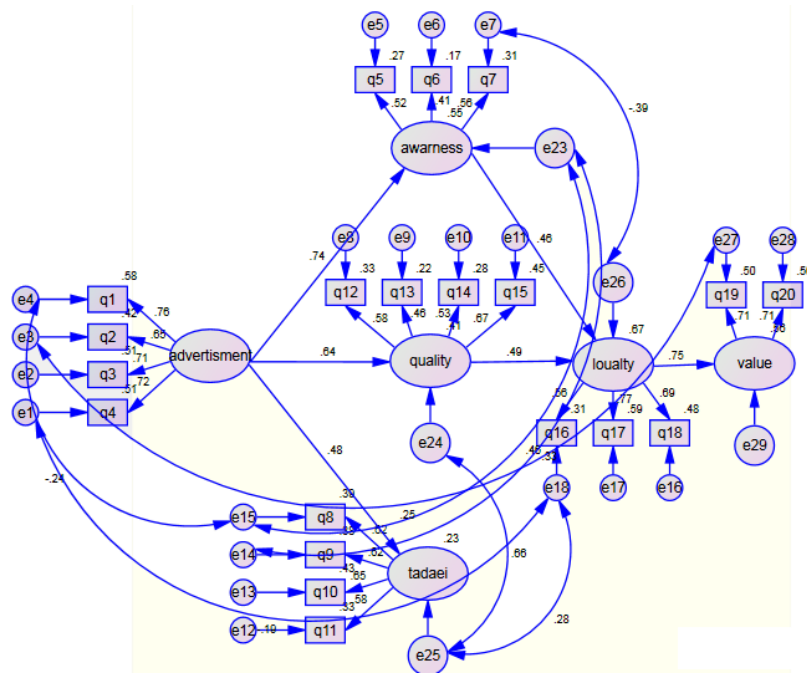
The summary of the effects of various components of the survey for the first case study

Relationship		Estimate	S.E.	C.R.	P
Advertisement	→ Brand Awareness	.816	.094	4.868	0.000
Brand Awareness	→ Brand Loyalty	.880	.294	4.584	0.000
Advertisement	→ Brand Quality	.559	.085	4.566	0.000
Advertisement	→ Brand Associate	.732	.082	6.160	0.000
Loyalty	→ Brand Equity	.342	.068	2.987	.003
Advertisement	→ Q4	.780			
Advertisement	→ Q3	.693	.097	8.688	0.000
Advertisement	→ Q2	.508	.089	6.268	0.000
Advertisement	→ Q1	.662	.095	8.294	0.000
Brand Awareness	→ Q5	.447			
Brand Awareness	→ Q6	.329	.186	3.475	0.000
Brand Awareness	→ Q7	.546	.250	4.374	0.000
Brand Quality	→ Q8	.551			
Brand Quality	→ Q9	.511	.182	5.003	0.000
Brand Quality	→ Q10	.640	.213	5.687	0.000
Brand Quality	→ Q11	.524	.180	5.057	0.000
Brand Associate	→ Q15	.606			
Brand Associate	→ Q14	.500	.156	5.556	0.000
Brand Associate	→ Q13	.469	.154	5.239	0.000
Brand Associate	→ Q12	.556	.165	6.016	0.000
Brand Loyalty	→ Q18	.653			
Brand Loyalty	→ Q17	.750	.150	7.328	0.000
Brand Loyalty	→ Q16	.484	.115	5.412	0.000
Brand equity	→ Q19	.670			
Brand equity	→ Q20	.648	.217	4.311	0.000

### 3.2. The second case study: Mobile Telecommunication Company of Iran

We now present details of the implementation of the final SEM model for the first case study. Mobile Telecommunication Company of Iran (MCI) also known as its brand name Hamrah-e-Avval is Iran's first and the largest mobile phone network operator. MCI is a subsidiary of the Telecommunication Company of Iran and it has over 16 million postpaid and over 18 million prepaid subscribers. Hamrah-e-Avval's service is available in 1,078 cities and over 38,000 kilometers of highway in Iran. It provides roaming services via 256 partner operators in 109 countries. Fig. 2 shows details of our findings. Table 2 shows details of our findings.

As we can observe from the results of Fig. 2 and Table 2, the effects of advertisement on brand equity, brand awareness and brand associate are confirmed. Moreover, brand awareness and brand quality influence on brand loyalty, positively. In addition, brand loyalty influences positively on brand equity.



**Fig. 2.** The results of SEM implementation for standard coefficients (tadaei: Brand associate)

**Table 2**

The summary of the effects of various components of the survey for the second case study

	Relationship	Estimate	S.E.	C.R.	P
Advertisement	→ Brand quality	.490	.094	5.225	0.000
Advertisement	→ Brand awareness	.531	.103	5.174	0.000
Brand awareness	→ Brand loyalty	.625	.189	3.314	0.000
Brand quality	→ Brand loyalty	.620	.163	3.792	0.000
Advertisement	→ Brand associate	.354	.081	4.360	0.000
Brand loyalty	→ Brand Equity	.508	.082	6.226	0.000
Advertisement	→ Q4	1.000			
Advertisement	→ Q3	.940	.111	8.474	0.000
Advertisement	→ Q2	.756	.096	7.843	0.000
Advertisement	→ Q1	.973	.108	8.990	0.000
Brand awareness	→ Q5	1.000			
Brand awareness	→ Q6	.676	.164	4.114	0.000
Brand awareness	→ Q7	.942	.195	4.843	0.000
Brand quality	→ Q8	1.000			
Brand quality	→ Q9	.760	.157	4.849	0.000
Brand quality	→ Q10	.914	.170	5.366	0.000
Brand quality	→ Q11	1.094	.176	6.201	0.000
Brand awareness	→ Q12	1.000			
Brand awareness	→ Q13	1.237	.201	6.161	0.000
Brand awareness	→ Q14	1.130	.190	5.948	0.000
Brand awareness	→ Q15	1.178	.195	6.044	0.000
Brand loyalty	→ Q18	1.000			
Brand loyalty	→ Q17	1.075	.128	8.392	0.000
Brand loyalty	→ Q16	.700	.107	6.530	0.000
Brand equity	→ Q19	1.000			
Brand equity	→ Q20	.981	.153	6.432	0.000

#### 4. Conclusion

The results of our survey have concluded that advertisement could influence on some of the components of brand equity, significantly. For the first case study of this survey, Irancell, advertisement influences on brand awareness, brand quality and brand associate, significantly. In addition, brand awareness and brand loyalty also influence on brand quality and brand equity. For the second case study of this survey, Mobile Telecommunication Company of Iran, the effects of advertisement on brand equity, brand awareness and brand associate are confirmed. Moreover, brand awareness and brand quality influence on brand loyalty, positively. In addition, brand loyalty influences positively on brand equity.

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