Customer-Based Brand Equity: A Study on Bangladeshi Brands

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Abstract

A very few brand carry the identification in Bangladesh market, but still it is necessary to understand the context with the existing one. In this paper it was aimed to develop a valid and reliable model of Bangladeshi brand equity by assessing the dimensions of the brand equity and its constructs. Based on thirty (30) theoretical constructs, which were compiled from literatures, four variables were included for brand awareness, seventeen variables for brand association, five for perceived quality and four for brand loyalty. Factor Analysis was conducted to identify dimensions of brand equity and its constructs. Principal Component Analysis with subsequent rotation (varimax) was conducted on 30 constructs of a questionnaire. According to the four dimensions proposed by Aaker (1991) in the brand equity literature, a four factor solution that reduced the 30 constructs to four factors was chosen in this study. The factors produce a Kaiser-Meyer-Olkin Measure of Sampling Adequacy of 0.531, with eigenvalues greater than 1.0. The brand equity constructs with a loading below 0.6 were excluded from further analysis. 17 constructs remained in this study.

Introduction

As a developing country Bangladesh is trying to incorporate with its national brand in past decade after the Independence. But very few can recall Bangladeshi brand. Most of the Bangladeshi brands have not yet achieved national recognition. When given a choice of different brands, consumers would often choose an international brand. Most of the Bangladeshi brand was identifies as a foreign brand, which is very awkward. It shows the companies are more considered about identifying brand as a brand only rather than focusing on national brand which can create more impact in purchasing focusing patriotism. Building strong brands focusing on nationalism should be given marketing priority and companies should also establish it. Examples of Bangladeshi brand are as: Aarong, Incepta Pharmaceuticals, Teletalk, Otobi, Pran, and Walton. The following are a brief of the stated brand.

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Aarong Bengali for 'village fair' – is Bangladesh's most popular lifestyle retail chain. This ethical brand began in 1978 as a humble means to empower rural artisans to rise above poverty. Today, with 18 retail stores across Bangladesh and over 100 fashion and lifestyle product lines, Aarong supports 65,000 artisans with fair terms of trade. Revolutionizing the retail industry with high

standards for quality and artistry, this iconic brand blends the traditional with the contemporary in ways that never cease to win consumer appeal both at home and abroad. In 1976, when BRAC– the world's largest development organization – engaged a small number of rural women to produce crafts, their only buyers were a few scattered retailers in Dhaka. Weeks, even months would pass between supply and payment, until BRAC intervened and established Aarong to pay the rural women for their goods on time. Over the past four decades, Aarong has carved out a unique market segment for handicrafts, reviving Bangladesh's rich heritage and impacting the lives of more than 325,000 people through 850 small entrepreneurs and the Ayesha Abed Foundation. The foundation acts as Aarong's production hub, where artisans find employment and access to BRAC's holistic support including, maternal health care, hygiene awareness and subsidized latrines, micro-credit, legal aid, day care and education for their children.

Incepta Pharmaceuticals Ltd. is a leading pharmaceutical company in Bangladesh established in the year 1999. The company has a very big manufacturing facility located at Savar and Dhamrai, 35 and 53 kilometer away respectively from the center of the capital city Dhaka. The company produces various types of dosage forms which include tablets, capsules, oral liquids, ampoules, dry powder vials, powder for suspension, nasal sprays, eye drops, creams, ointments, lotions, gels, prefilled syringes, liquid filled hard gelatin capsules, lyophilized injections, human vaccine etc. Since its inception, Incepta has been launching new and innovative products in order to fulfill unmet demand of the medical community. The focus has always been to bring new, more technologically advanced molecules and innovative dosage forms to this country.

Teletalk Bangladesh Limited is a public limited company, registered under the Registrar of the Joint stock companies of Bangladesh. Total shares owned by the Government of the Peoples Republic of Bangladesh. Their objective is continued to grow and engage customers through clear commitment to offering high quality products and services as well as leading customer retention and loyalty programmers. Teletalk continues to be a part of the revolution that's connecting millions of Bangladeshi people and around the world. Teletalk has forged ahead and strengthened its path over the years and achieved some feats truly to be proud of, as the only Bangladeshi mobile operator and the only operator with 100% native technical and engineering human resource base, Teletalk thrives to become the true people's phone – "Amader Phone".

Otobi, the leading furniture manufacturer and retailer in Bangladesh is the most preferred lifestyle solution brand because of its constant innovations, advanced technological expertise, manufacturing capacity in the widest range of furniture categories, largest distribution network and time tested service reputation. From humble beginnings in 1975 in the corporate furniture realm to the spectacular escalation into the lifestyle giant that it is now, Otobi's story of success spans over four decades. With creative reinvention pulsating through the entire organization, Otobi has integrated the entire furniture solution platform in home, office, industrial and interior design through its operation.

Pranhas started its operation in 1981 as a processors fruit and vegetable in Bangladesh. Over the years, the company has not only grown in stature but also contributed significantly to the overall

socio-economic development of the country. Pran is currently one of the most admired food & beverages brands among the millions of people of Bangladesh and other 134 countries of the world where Pran products are regularly being exported. All the Pran products are produced as per international standards maintaining highest level of quality at every stages of its production process. Pran is currently producing more than 400 food products under 10 different categories i.e.

Juices, Drinks, Mineral Water, Bakery, Carbonated beverages, Snacks, Culinary, Confectionery, Biscuits & Dairy. The company has adopted ISO 9001 as a guiding principle of its management system. The company is compliant to HACCP & certified with HALAL which ensures that only the best quality products are reaches to the consumers table across the Globe.

Walton is the latest multinational electrical, electronics, automobiles and other appliances brand with one of the largest well equipped R & D facilities in the world carried out its production through different subsidiaries under the banner of Walton group headquarters in Bangladesh. Walton had entered into electronics business in 1994 with manufacturing of electrical and electronic items and gradually expanded its operation in many other electronics field that provide the foundation for nearly every aspect of modern life. The key secret behind the success of Walton lays its variation of production capacity and customized orientation of new product as per the demand of customer.   World class machineries like Thermoforming, Channel Extrusion, ABS/HIPS Sheet Extrusion, Magnetic Strip Extrusion, PP Hollow Sheet Extrusion, VMC, 5 axis VMC, Ultrasonic Welding, Injection Molding, Styrofoam Making, Hi Speed Power Press, Fin Press, Corrugation, SMT pick and place, SPG printing machine, AOI machine, Tamura wave solder machine, Auto insertion machine are being used for the production of high quality products of Walton. Along the way, Walton has earned domestic and global recognition for its experience and proven track record in a variety of electronics fields.   Walton is the pioneer of developing state of the art designs and modern technology having leading market share specializing in Multi-Stored Refrigerators, Freezers, Air Conditioners, LED/ LCD televisions, Motorcycles, Smart Phones and Home Appliances. WALTON has established a milestone as the highest exporting Bangladeshi enterprise in the field of electronics, with a universal presence in over 20 countries and by 2020 the presence of Walton will be ensured almost every country in the world.

In today's competitive business environment, the concept of brand equity is an important source of strategic intelligence for marketers. High brand equity levels are known to affect consumer preferences and purchase intentions (Cobb-Walgren et al., 1995), profits and share returns (Srivastava and Shocker, 1991; Aaker and Jacobson, 1994), market power (Farquhar, 1989; Wood, 2000) and sustainable competitive advantages (Bharadwaj et al., 1993), brand extension (Keller and Aaker, 1992) and consumer's willingness to pay premium prices (Keller, 1993; Anselmsson et al., 2007). Brand equity serves three important roles: (a) it acts as a magnet to attract new customers to the firm, (b) serves as a reminder to the customers about the organization's products and services, (c) it is customer's emotional tie to the organization (Lemon et al., 2001). A number of empirical researches have been conducted to evaluate brand equity. However, not much research has been done to apply brand equity concepts and measures to Bangladeshi brands. Thus, the objective of this research is to develop a valid and reliable model of Bangladeshi brand equity by assessing the dimensions of the brand equity constructs.

Literature Review

The reality that emerges from the various researches in brand equity through the years is that

there is considerable debate regarding the definition of brand equity and its measurements (Yoo and Donthu, 2001). However, brand equity is accepted as the overall utility that customers place in a brand (De Chernatony and McDonald, 2003; Vazquez at el, 2002). The definitions of brand equity can be classified into two perspectives. The first perspective of brand equity is from a financial market's point of view where the asset value of a brand is appraised (Farquhar et al., 1991, Simon

and Sullivan, 1993). Recently, brand equity has increasingly been defined in customer-based contexts, which defines brand equity as the value of a brand to the customer (Aaker, 1991; Keller, 1993; Cobb-Walgren et al., 1995; van Osselaer and Alba, 2000). Aaker (1991) defines brand equity as "a set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firms' customers." Brand awareness, brand associations, perceived quality, brand loyalty and other proprietary assets were the five assets of brand equity. Keller (2003) argued that the power of a brand lies in the minds of the customers and what they have experienced and learned about the brand over time. He defines customer-based brand equity as "the differential effect that brand knowledge has on consumer response to the marketing of that brand". Brand knowledge consists of brand awareness and brand image.

Keller (2003) described customer-based brand equity as a multidimensional concept. Several empirical studies on the dimensions of customer-based brand equity (eg: Cobb-Walgrenet al., 1995; Yoo and Donthu, 2001; Pappu et al., 2005; Washburn and Plank, 2002) are all derived from Aaker (1991) and Keller (1993) frameworks where brand equity can be measured by four constructs: brand awareness, brand association, perceived quality and brand loyalty. Yoo and Donthu (2001) developed multi-dimensional scale for measuring customer-based brand equity. This scale was later validated by Washburn and Plank (2002). However, the dimensionality of the customer-based brand equity needs to be refined (Washburn and Plank, 2002; Pappu et al., 2005) as to improve the measurement of consumer-based brand equity. In this study, customer-based brand equity is conceptualized in accordance to Aaker (1991, 1996) and Keller (1993)'s models. A description of the dimensions and their constructs on which brand equity is based is examined and tested in the succeeding sections of this study.

Brand Awareness

Brand awareness is a key determinant of brand equity (Aaker, 1996; Keller, 2003; Mackay, 2001; Yoo and Donthu, 2001; Washburn and Plank, 2002; Pappu et al., 2005). It is defined as an individual's ability to recall and recognize a brand (Aaker, 1996; Keller, 2003). Top-of-mind and brand dominance is other levels of awareness included by Aaker (1996) in measuring awareness. Awareness can affect customers' perceptions, which lead to different brand choice and even loyalty (Aaker, 1996). A brand with strong brand recall (unaided awareness) and top of mind can affect customers' perceptions, which lead to different customer choice inside a product category (Aaker, 1996; Kimpakorn and Tocquer, 2010).

Brand Associations

Aaker (1996) conceptualizes brand awareness that must precede brand associations. That is where a consumer must first be aware of the brand in order to develop a set of associations (Washburn and Plank, 2002). Brand association contains the meaning of the brand for consumers (Keller, 1993). It is anything linked in memory to a brand (Aaker, 1991). Brand associations are mostly grouped into a product-related attribute like brand performance and non-product related attributes like brand

personality and organizational associations (Aaker, 1996; Chen, 2001; Keller, 2003; Netemeyer et al., 2004; Pappu et al., 2005). Customers evaluate a product not merely by whether the product can perform the functions for which it is designed for but the reasons to buy this brand over the competitors (Aaker, 1996) such as brand's fault-free and long-lasting physical operation and flawlessness in the product's physical construction (Lassar et al., 1995).

Brand personalities include symbolic attributes (Aaker, 1996; Keller, 1993; Chen, 1996) which are the intangible features that meet consumers' needs for social approval, personal expression or self-esteem (Keller, 1993; Hankinson and Cowking, 1993; Pitta and Katsanis, 1995). The symbolic attributes that are commonly linked to a brand are:

1. Social Image: Lassar et al (1995) argue that social image which includes the attributions a consumer makes and a consumer thinks that others make to the typical user of the brand is more relevant in measuring customer-base brand equity.

2. Perceived value: Consumer choice of a brand depends on a perceived balance between the price of a product and all its utilities (Lassar et al., 1995). A consumer is willing to pay premium prices due to the higher brand equity (Aaker, 1993).

3. Trustworthiness: Trustworthiness refers to the level of confidence consumer places in the organisation (Lassar et al., 1995). As a customer buys a good or service before experiencing it, fostering of trust is a key to build a customer relationship (Kinard and Capella, 2006).

4.   Country-of- origin: Country of origin leads to associations in the minds of consumers (Aaker, 1991; Keller, 1993). Country image can influence perceived quality and brand loyalty. (Pappu et al, 2007). Country of origin refers to the country of origin of a firm or a product (Johansson et al., 1985; Ozsomer and Cavusgil, 1991). Organizational associations include corporate ability and social responsibility associations (Aaker, 1996; Chen, 2001). Consumers will consider the organization, which is related to people, values, and programs that lies behind the brand. Brand-as-organization can be particularly helpful when brands are similar with respect to attributes or when a corporate brand is involved (Aaker, 1996). Corporate social responsibility (CSR) is influencing the development of brands (Blumenthal and Bergstrom, 2003) as the public is interested to know what, where, and how much brands are giving back to society.

Perceived Quality

Perceived quality is defined as the customer's judgment about a product's overall excellence or superiority in comparison to alternative's brand (Zeithaml, 1988; Aaker, 1996) and overall superiority that ultimately motivates the customer to purchase the product (Aaker and Jacobson, 1994). It is difficult for customers to make a rational judgment of the quality. They are likely using quality attributes like color, flavor, form, appearance of the product and the availability of production information (Bernués et al., 2003) to 'infer' quality (Acebrón and Dópico, 2000).

Brand Loyalty

Aaker (1991) defines brand loyalty as 'the attachment that a customer has to a brand'. Two different levels of loyalty are classified: behavioral and cognitive loyalty (Keller, 1998).

Behavioral loyalty can be indicated by a number of repeated purchases (Keller, 1998) or

commitment to rebuy the brand as a primary choice (Oliver, 1997, 1999).

Cognitive loyalty refers to the consumers' intention to buy the brand as the first choice (Keller, 1998; Yoo and Donthu, 2001). Another indicator of loyalty is the customer's willingness to pay higher price for a brand in comparison with another brand offering similar benefits (Aaker, 1996; Chaudhuri and Holbrook, 2001; Srinivasan et al., 2002).

Objectives of the study

The objectives of this study are:
1. To identify the various components of brand equity of country as a brand.
2. To assess the influence of brand equity on the purchase of Bangladeshi brand.

Methodology

Research Phase and Data

For this research data were collected between February 2017 to April 2017. Discussion was held with the respondents after providing them the questionnaire. They were given proper idea about different variable whenever required. Among so many Bangladeshi brands, for this study six (06) Bangladeshi brands were selected. They are: Aarong, Incepta Pharmaceuticals, Teletalk, Otobi, Pran, and Walton.

The primary data for the study related to the variables identified for investigation in the research. In this research, the attitude and opinions of people towards Bangladeshi brands were measured. A survey design was used for the research, which provided a quantitative description of trends, attitudes, and opinions of the consumers. On the basis of above three aspects, research questions were formulated. Concerning the research method for this study, information obtained through these questions is considered as consumer-based so that the practicability of this study can be reached. Data collection from the respondents was so designed as to enable the findings to be generalized to the population (Pinsonneault & Kraemer, 1993).

Research Design

This questionnaire is divided into two parts. The first is concerned with the demographic. The second part is thirty variables associated with the brand awareness, brand associations, perceived quality and brand loyalty. The data collection instrument is a structured questionnaire. A pool of 30 items compiled from the literature was incorporated in the questionnaire (Table 1). Four variables were included for brand awareness, seventeen variables for brand association, five for perceived quality and four for brand loyalty. A Likert-scale of 1 to 5 was adopted for all the brand equity measures with the anchors 'strongly disagree' (1) and 'strongly agree' (5). The items were developed with reference to the empirical studies of Yoo and Donthu (2001) and Lassar et al (1995). The reason for referring to their scale development studies is that their scales are the most commonly accepted measure of customer-based brand equity (Washburn and Plank, 2002). Based on thirty (30) theoretical constructs, which were compiled from literatures, four variables were included for brand awareness, seventeen variables for brand association, five for perceived quality and four for brand loyalty. Factor Analysis was conducted to identify dimensions of brand equity and its constructs. Principal Component Analysis with subsequent rotation (varimax) was conducted on 30 constructs of a questionnaire.

Table1: Dimensions of Brand Equity and its Constructs Data Collection

1	Brand Awareness (Aw)	I have difficulty in imagining this brand in my mind.
2		I can recognize this brand among competing brands.
3		This brand is the only brand recalled when I need to make a purchase decision on the product.
4		This brand comes up first in my mind when I need to make a purchase decision on the product
5	Brand Associations (As)	The brand is made so as to work trouble free.
6		This brand is safe to use/consume.
7		During use, the brand is highly unlikely to be defective.
8		I can quickly recall the logo of this brand.
9		In its status and style, this brand matches my personality.
10		The brand is well regarded by my friends.
11		I am proud to own a product of this brand.
12		I consider the company and people who stand behind the brand are very trustworthy.
13		The brand is well priced.
14		Considering what I pay for the brand, I get much more than my money's worth.
15		I can get the same benefits from this brand when compared to the imported brand(s).
16		I buy/use this brand of product because it is a Bangladeshi brand.
17		The brand's country of origin/manufacture is important in choosing this product.
18		I consider the company and people who stand behind the brand have the expertise in producing the product.
19		I believe that this company and people who stand behind the brand are socially responsible.
20		I believe that this company does not take advantage of consumers.
21		I believe that this company is contributing to the society.
22	Perceived Quality (PQ)	This brand is of good quality.
23		I can expect superior performance from this brand.
24		This brand is very reliable.
25		I don't have difficulties in finding the information that I need from the label of the package.
26		This brand is better as compared to other brand(s) of the product in terms of the color/flavor/form/ appearance.
27	Brand Loyalty (L)	After using the brand, I grow fond of it.
28		I will definitely buy this brand of product again.
29		I will definitely buy this brand of product although its price is higher than the other brand(s) of the product that offer similar benefits.
30		I will not buy other brands, when this brand is available at the store.

350 questionnaires were sent to all parts of Dhaka, especially in well known area like Dhanmondi, Gulshan, Mohakhali DOHS, Shantinagar and Rampura. Convenience and Judgmental sampling techniques are actually used considering a person who make purchase or take decision in selecting a brand in a particular family. Only 290 samples were valid and only those were used to analyze. Malhotra (1999) suggested minimum sample of problem solving is at least 200 samples.

Data Analysis

For purposes of data analysis, SPSS was used to analyze Kaiser-Meyer-Olkin Measure of Sampling Adequacy, factor analysis and correlation.

Findings and Analysis

Demographics

The sample indicates a balance between males (69%) and females (31%). Majority of the respondents are those age 45 (69%) and monthly income of 60, 000 Taka to 80, 000 Taka.

Reliability and Validity of the Constructs

Internal reliability of the 30 construct scale was assessed using the factors produce a Kaiser-Meyer-Olkin Measure of Sampling Adequacy of 0.531, which is acceptable. Kaiser (1974) recommends accepting values greater than 0.5 as acceptable (values below this should lead you to either collect more data or rethink which variables to include). Furthermore, values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are superb (Hutcheson and Sofroniou, 1999). The validity of the constructs is justified as the measures were developed based on a theoretical framework that was derived from extensive literature review.

Factor Analysis

The 30 constructs were tested by principal components analysis, using varimax rotation. According to the four dimensions proposed by Aaker (1991) in the brand equity literature, we have chosen a four factor solution that reduced the 30 constructs to four factors (alpha=0.96), with eigenvalues greater than 1.0 except the brand awareness factor which has an eigenvalues less than one. These four factors explained 58.639% per cent of the total variance. By convention, the factor loadings should be at least 0.3 but for a variable to unambiguously represent a factor, the loading should be 0.6 and above (Burns and Burns, 2008). In this study, the brand equity constructs with a loading below 0.6 were excluded from further analysis. 17 constructs remained in this study. Table 2 lists the factors in the order in which they were extracted from the data. With reference to the rotation, Factor 1 is loaded on 4 constructs that reflects perceived quality of Bangladeshi brand and accounted for 23.631% of the variance. Factor 2 is loaded with 3 constructs and accounts for 14.590% of the variance. Factor 2 is labeled as brand associations. The third factor accounted for 12.527% of the variance and is loaded on 3 constructs suggesting it is measuring brand loyalty. The last factor, measuring brand awareness, is accounted for 7.890% of the variance and loaded with 3 constructs.

Table 2: Result for Factor Analysis, Factors Variance, Loadings and Brand Equity Constructs

Factor	Factor Interpretation (% of variance explained)	Brand equity constructs	Loading
F1	Brand Awareness (Aw)	This brand is the only brand recalled when I need to make a purchase decision on the product.	.905
		This brand comes up first in my mind when I need to make a purchase decision on the product	.846
F2	Brand Associations (As)	The brand is made so as to work trouble free.	.696
		During use, the brand is highly unlikely to be defective.	.781
		In its status and style, this brand matches my personality.	.798
		I am proud to own a product of this brand.	.652
		I consider the company and people who stand behind the brand are very trustworthy.	.831
		I buy/use this brand of product because it is a Bangladeshi brand.	.715
		I consider the company and people who stand behind the brand have the expertise in producing the product.	.902
		I believe that this company does not take advantage of consumers.	.895
		I believe that this company is contributing to the society.	.757
F3	Perceived Quality (PQ)	I can expect superior performance from this brand.	.874
		I don't have difficulties in finding the information that I need from the label of the package.	.776
F4	Brand Loyalty (L)	After using the brand, I grow fond of it.	.771
		I will definitely buy this brand of product again.	.806
		I will definitely buy this brand of product although its price is higher than the other brand(s) of the product that offer similar benefits.	.791
		I will not buy other brands, when this brand is available at the store.	.799

Conclusion and Future Research

This study focuses on four dimensions of brand equity, which are perceived quality, brand associations, brand loyalty and brand awareness and its measurements. Conceptualizing brand equity from the consumer's perspective is useful because it suggests both specific guidelines for marketing strategies and tactics and areas where research can be useful in assisting managerial decision making. Two important points emerge from this conceptualization. First, marketers should take a broad view of marketing activity for a brand and recognize the various effects it has on brand knowledge, as well as how changes in brand knowledge affect more traditional outcome measures such as sales. Second, markets must realize that the long-term success of all future marketing programs for a brand is greatly affected by the knowledge about the brand in memory that has been established by the firm's short-term marketing efforts. In short, because the content and structure of memory for the brand will influence the effectiveness of future brand strategies, it is critical that managers understand how their marketing programs affect consumer learning and thus subsequent recall for brand-related information (Keller, 1993). Derived from the analysis, this model includes four factors and 14 variables. For further study in the future, we will investigate the fitness model by using the structure equation model (SEM). Continuation of this study, the problems will be studied in the future is whether the brand awareness, brand associations, perceived quality and brand loyalty has a positive impact on brand equity.

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Appendices
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.531
Bartlett's Test of Sphericity	Approx. Chi-Square	10164.001
	df	406
	Sig.	.000

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Total	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.853	23.631	23.631	6.853	23.631	23.631	6.237	21.507	21.507
2	4.231	14.590	38.221	4.231	14.590	38.221	3.624	12.496	34.003
3	3.633	12.527	50.748	3.633	12.527	50.748	2.985	10.293	44.296
4	2.288	7.890	58.639	2.288	7.890	58.639	2.494	8.599	52.895
5	2.231	7.692	66.330	2.231	7.692	66.330	2.348	8.097	60.993
6	1.945	6.707	73.038	1.945	6.707	73.038	2.134	7.360	68.353
7	1.339	4.618	77.655	1.339	4.618	77.655	1.753	6.045	74.398
8	1.205	4.156	81.811	1.205	4.156	81.811	1.698	5.856	80.254
9	1.033	3.562	85.373	1.033	3.562	85.373	1.485	5.119	85.373
10	.782	2.695	88.068						
11	.601	2.073	90.142						
12	.487	1.680	91.822						
13	.429	1.479	93.300						
14	.332	1.143	94.444						
15	.288	.992	95.436						
16	.278	.960	96.396						
17	.210	.723	97.118						
18	.173	.596	97.715						
19	.145	.499	98.214						
20	.114	.392	98.605						
21	.104	.357	98.962						
22	.081	.279	99.241						
23	.073	.250	99.491						
24	.048	.166	99.658						
25	.036	.124	99.782						
26	.023	.081	99.863						
27	.020	.069	99.931						
28	.012	.043	99.974						
29	.007	.026	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	1	2	3	4	5	6	7	8	9
	Component
Aw1	.262	.729	.226	.073	.357	.113	.043	.013	.209
Aw2	-.209	-.364	.715	.065	.117	-.067	-.222	-.192	.119
Aw3	.186	.347	.145	-.247	.176	.392	-.582	-.219	.264
Aw4	-.149	.427	.490	.133	.597	.237	.053	-.048	-.076
As1	-.147	-.286	.541	.524	-.001	-.159	.048	.261	.284
As2	.015	-.503	-.239	-.459	-.225	.087	-.131	.333	.299
As3	-.012	.785	.032	-.043	-.243	-.335	.136	.036	-.015
As4	.070	-.731	.070	.312	-.123	.196	.194	-.098	-.224
As5	.095	.629	-.397	-.044	-.180	.061	.294	-.109	.292
As6	-.312	-.644	.066	-.229	.290	-.123	.120	-.148	-.086
As7	.371	.575	-.112	.152	-.403	.324	-.042	-.279	-.034
As8	-.158	.135	-.062	.335	.720	.249	.412	-.019	.065
As9	-.315	-.192	.404	.222	-.049	-.538	.078	-.317	.306
As10	.186	-.460	-.083	-.377	.351	.415	-.037	-.045	.119
As11	-.327	.332	.071	.115	.150	-.411	-.606	.332	-.135
As12	.668	-.033	.360	-.073	-.401	.312	.123	.157	.084
As13	-.854	.060	-.352	.091	-.161	-.034	.080	.035	.113
As14	.909	-.150	-.079	.116	.050	-.059	.061	.005	-.059
As15	-.890	.119	-.021	-.262	-.062	-.085	.140	-.025	.105
As16	.838	-.076	-.055	.366	.123	-.092	-.113	.117	-.067
As17	-.124	.040	.625	-.599	.015	-.023	.212	.015	.229
PQ1	-.714	.028	-.172	.412	-.062	.398	-.146	-.009	-.150
PQ2	.854	-.168	-.307	-.030	.008	-.147	.147	.055	.127
PQ3	-.851	.102	.054	.007	-.215	.064	.084	-.060	-.041
PQ4	.606	-.021	-.365	.015	.368	-.462	-.055	-.082	.201
L1	.304	.041	.805	-.232	-.179	.177	-.001	.000	-.224
L2	-.377	-.052	-.228	.131	.170	.332	.034	.605	.222
L3	.064	.397	.244	-.484	.243	-.239	.236	.346	-.401
L4	.259	.108	.651	.397	-.344	.061	.106	.252	.148

Extraction Method: Principal Component Analysis.
a. 9 components extracted.

Rotated Component Matrix[a]

	Component								
	1	2	3	4	5	6	7	8	9
Aw1	.204	.515	.103	.589	.217	.020	-.074	.347	.070
Aw2	-.166	-.517	.296	.104	.078	.562	-.091	.231	-.184
Aw3	.063	.112	.077	.100	-.002	-.128	-.076	.905	-.060
Aw4	-.148	-.014	.161	.846	.202	.046	-.130	.250	.003
As1	-.016	-.213	.382	.141	-.121	.696	-.144	-.191	.281
As2	.026	-.281	-.076	-.683	.142	-.087	.171	.128	.414
As3	-.110	.781	.032	.070	.274	.016	-.242	-.107	-.188
As4	.098	-.583	.233	-.079	-.379	.051	.319	-.362	-.059
As5	-.020	.798	-.206	.037	.005	-.140	.279	.047	.063
As6	-.177	-.703	-.283	-.044	.173	.150	.167	-.140	-.061
As7	.124	.652	.285	.034	-.306	-.288	.157	.219	-.283
As8	-.024	-.062	-.259	.831	-.063	.010	.215	-.097	.304
As9	-.196	-.088	-.076	-.003	.041	.840	-.030	-.130	-.254
As10	.190	-.529	-.121	-.028	.109	-.234	.389	.347	.196
As11	-.178	.086	-.119	.036	.037	.096	-.917	.110	.069
As12	.448	.124	.715	-.199	.102	-.075	.308	.098	.019
As13	-.781	.131	-.362	-.106	-.207	.072	-.044	-.204	.228
As14	.902	.008	.125	-.039	-.061	-.107	.144	-.069	-.098
As15	-.872	.043	-.275	-.045	.225	.128	-.008	-.064	.085
As16	.895	.027	.153	.077	-.229	-.031	-.111	-.059	-.003
As17	-.238	-.088	.265	-.017	.757	.244	.207	.231	-.042
PQ1	-.694	-.080	-.008	.193	-.572	-.131	-.123	-.045	.172
PQ2	.874	.110	-.098	-.219	.017	-.093	.249	-.094	.041
PQ3	-.877	.035	-.032	.005	-.053	.091	-.041	-.126	.006
PQ4	.776	.110	-.515	-.013	.056	.116	-.053	.027	-.031
L1	.091	-.143	.771	.068	.392	.006	.019	.168	-.316
L2	-.272	-.062	-.044	.083	-.111	-.123	-.063	-.045	.806
L3	.026	.108	.072	.224	.791	-.312	-.277	-.189	-.063
L4	.157	.197	.799	.088	-.029	.389	-.040	-.092	.089

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 18 iterations.

Component Transformation Matrix

Component	1	2	3	4	5	6	7	8	9
1	.928	.130	.220	-.060	.036	-.145	.146	.096	-.126
2	-.128	.825	.032	.366	.167	-.183	-.245	.194	-.092
3	-.089	-.218	.691	.260	.365	.442	-.097	.148	-.201
4	.125	.105	.162	.376	-.747	.332	-.172	-.313	.099
5	.217	-.360	-.453	.702	.208	-.011	-.109	.186	.188
6	-.197	-.121	.385	.220	-.301	-.491	.437	.389	.274
7	-.041	.170	.013	.266	.297	.039	.641	-.626	.077
8	.087	.004	.265	-.127	.239	-.167	-.399	-.263	.770
9	.051	.265	-.154	-.160	.008	.608	.327	.431	.465

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.