

# Factor Analysis of Consumer Behaviour in Jewellery Business: An Empirical Study on Bangladesh

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## Abstract

This study analyses major determinant factors that drive consumers while purchasing jewelry in Bangladesh. It is based on factor analysis through a survey of questionnaire performed using SPSS software. The key findings figures out three major factors of consumer behavior- Operational and marketing Factors, Perceived Quality, and Serviceability and Conformance. Additionally, result confirms major group of consumers are middle aged female housewives, who prefers to buy plain gold. Such study is rarely available in the context of Bangladesh. Findings are important for the entrepreneurs and policy makers of jewelry industry.

**Keywords:** Jewellery Business, Consumer Behaviour, Bangladesh, Factor Analysis

## 1. Introduction

Consumer behaviour is the study of how people buy, what they buy, when they buy and why they buy. It attempts to understand the buyer decision processes/buyer decision making process, both individually and in groups. It studies characteristics of individual consumers such as demographics, psychographics, and behavioural variables. The behavioural pattern of consumers usually shaped by the nature of the product i.e., luxurious items, commodity goods, and so on.

Among the luxurious items, the jewellery industry is comprised of companies who are involved in the creation, chasing, etching, or engraving of jewellery. Jewellery products can be created with precious metal solid or precious metal clad jewellery with or without stones where the primary procedures in manufacturing jewellery includes design, mold, cast, polish, finish, and plate. Jewellery is purchased into three different classifications as like bridal jewellery, such as engagement, wedding, and anniversary rings; fashion jewellery, like an assortment of necklaces, rings, earrings, bracelets, and pins; and other miscellaneous giftware. The demand for jewellery is dependent upon consumer income, as well as the global cost of gold and silver. Larger jewellery businesses are capable or offering a larger line of products to easily meet the wants of customers, and are able to be efficient in the operations of production and distribution. Smaller jewellery companies continue to have a hold in the market due to the fact that cost is not the main factor in their retail of jewellery. They also offer specific pieces that are individualizing to a consumer, as well as unique lines.

Bangladesh is traditionally known as the producer of finest quality gold ornaments and jewellery with long experience. The estimated number of artisans in Bangladesh ranges between 20 to 30 thousands and have experience ranging from 1-35 years. Bangladesh since its inception in 1971 has not imported any gold till date. The gold so imported was meant to be distributed through the Jewellers Association. This study will explore the factors and trends shaping consumer behaviour and the ways marketers and regulators can use this information.

Jewellery business can play a great role in Bangladeshi economy. However, this sector was rarely explored earlier by the researchers. The aim of this study is to learn how consumers perceive jewellery and how this affects their behaviour. The focal point of this research is in the consumer and his/her perceptions that shape the jewellery markets. The research will identify

I. The characteristics of the main consumer groups in jewellery

II. The dominant factors that influence the purchasing decision of the customer in jewellery

The outcomes of these objectives will have important implications for the jewellery entrepreneurs to better control the jewellery industry.

The remainder of this paper is organized as follows. Section 2 reviews the literature on consumer behaviour and gold business. The methodology is proposed and described in Section 3. Section 4 provides results and discussions on statistical analysis from the customer survey, and the conclusion and managerial implications are presented in Section 5.

## 2. Literature Review

The consumer behaviour is the study of individuals, groups, or organizations and the processes they use to select, secure, use, and dispose of products, services, experiences, or ideas to satisfy needs and the impacts that these processes have on the consumer and society. Factors influencing purchase behaviour are mainly due to certain internal and external stimuli (Solomon, 2004). It can either be because people want to escape from routine job, enhance quality of life, reward hard work (Danziger, 2004a), gain extra feeling of confidence, get memorable

experiences, to be more special and unique (Danziger, 2004b), to express their personality, as a status symbol, or to fulfil their psychological needs (Nia and Judith, 2000).

Jewellery industry is highly cyclical in nature and that is mostly driven by the increasing wealth. Jewellery can be defined as credence good. It refers to that the dominant product attributes, such as the level of quality, are hard to estimate even after using it, thus they are taken by trust. Numbers of internal and external factors influence the purchase behaviour of the consumer in this industry.

A large extent in consumers purchasing is dependent on their income. The consumers' income as a social class is another internal factor that has to be considered because it indicates the wealth and status hierarchy of a person in their society. Dubois & Duquesne (1993) note that income is seen as a factor that constraints individuals in pleasing their consumption needs. The role of gender towards purchasing luxury brand products is considered important from the prospect that women seem to purchase luxury brand products more often than men, simply because women shop more than men. The luxury market is vastly increasing, and there have been significant changes towards consumer behaviour.

Another internal factor, that is motivation, refers to a process that will lead consumers to do something to achieve their satisfaction. Motivation will influence consumers' needs and wants, which vary over situations and time and posed different degree of effects on the consumer (Reid, 2002). It is a complex interaction, in which individual responds to the different types of internal and external stimuli (Jones and Lloyd, 2005; Amar, 2004). In addition to it, perception is another important internal factor since it relates to the person's sense of personal identification and viewpoint (Hackley and Kitchen, 1998). Perception is a process related with how consumers select, organize, and interpret the physical sensory elements such as sight, sounds, and smells. Normally, it is linked with the consumer's feeling toward the thing they want to evaluate (Solomon, 2004).

However, personality influences people's responses to their environment based on their personal perceptual, cognitive, and emotional outlook (Dole and Schroeder, 2001; Lau and Shaffer, 1999). In terms of lifestyle, it is defined as patterns in which people live and spend time and money (Kesic and Piri-Rajh, 2003). It not only reflects different modes of living but also will affect consumers' consumption pattern. Moreover, in social view, personality is learned, rather than inborn and it might interplay between inborn process and environment influence (Lau and Shaffer, 1999). That is, lifestyle is developed to measure behaviour as a function of inherent individual characteristic that have been shaped through the social interaction of psychological and sociological factors and past experience (Kesic and Piri-Rajh, 2003).

In terms of the external factors, as most people are living in groups, group influence becomes a factor that is able to influence the consumer purchase behaviour. This is because people might covet other people's behaviour and wishes to be a part of it (Solomon, 2004). Individuals mostly will hear other people's recommendation and get information regarding products. In this situation, group reference is an important intermediate to determine the consumer purchase behaviour (Solomon, 2004).

Moreover, environmental characteristics have also been argued as an important factor influencing consumer-buying decision (O'Cass and Julian, 2003). Time pressure, peer pressures, mood, availability and accessibility, ease or difficulty of obtaining information, and budget influenced consumer purchase behaviour (Anonymous, 2006c). Besides that, consumer purchase behaviour caused by environmental factors consisted of specific occasions, usage situations, the way they feel at that time, situational self-image, physical and social surrounding, temporal factors and time (Solomon, 2004).

Finally, the marketing mix is also considered an important external factor. Marketing mix is generally known as the "4Ps" - product, price, promotion, and place (Grönroos, 2007; Kotler and Amstrong, 2004). Normally products can be determined through feature, quality and quantity; and the right balance between these 4P can either make or break a product. For instance, correct pricing strategy can be created by studying the product's demand and market segment; placing the product in the right location can greatly enhanced its accessibility to customers; while the right type of promotion can ensure that the target audience will be reached to increase awareness, and thus increase the chance of the product being purchased.

### 3. Methodology

The purpose of this research is to find out buying behaviour of customer's towards jewellery products with special reference to Dhaka New Market. In this study, a descriptive research is used to identify the characteristics of relevant groups, such as consumers, sales person, organizations or market areas. This research can be used to estimate the percentage of units in a specific population exhibiting certain behaviour and to determine the customer expectations related to the product.

Non probability sampling technique has been adopted which relied on the personal judgment of the researchers. Hence, a convenient sampling technique was used as the number of customers who purchase jewellery products are very few than any regular product. Convenient sampling is least expensive, least time consuming, most convenient but there can be a selection bias.

Primary data was collected from around 60 customers from the Dhaka New Market by survey method through questionnaire. The Likert scale is used to indicate the degree of agreement or disagreement with a series of questions from strongly agree to strongly disagree. The competitive market includes Amin Jewellers, Venus Jewellers, Apan jewelers, SanandaJewellers, New Jaroa House, Dimond world, AlankarNikaton, Sultana Jewellers, and PurobiJewellers. The secondary data was collected from journals, text books and through the internet.

The data collected was analyzed using Exploratory Factor Analysis (EFA) with Varimax rotation. The reliability of the measures was tested using both the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy (MSA) and Bartlett’s test of sphericity. Moreover, the reliability of data also checked using chronbach’s alpha value. Parallel analysis is also performed in addition to the factor analysis to retain exact number of factors which truly represents the factors for consumer behaviour of jewellery industry.

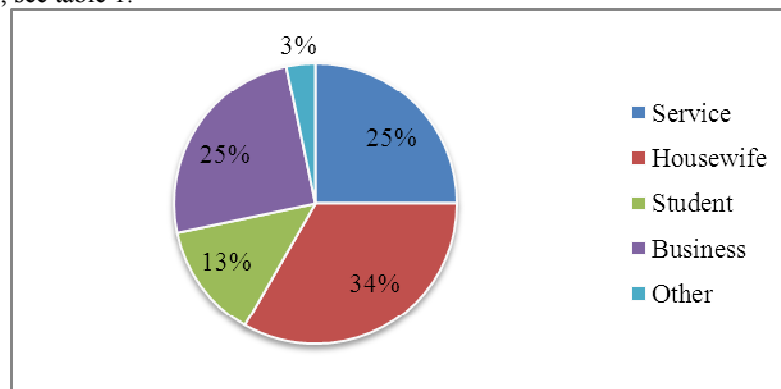
#### 4. Result and Discussion

The questionnaire includes two major parts, first one is the general information about the respondent, and the other part is about different factors involves in purchasing jewellery. The general information part contains demographic questions, e.g., gender, age, monthly income and so on. These demographics information provides a clear picture to the readers about the respondent’s general information.

**Table 1: Survey information**

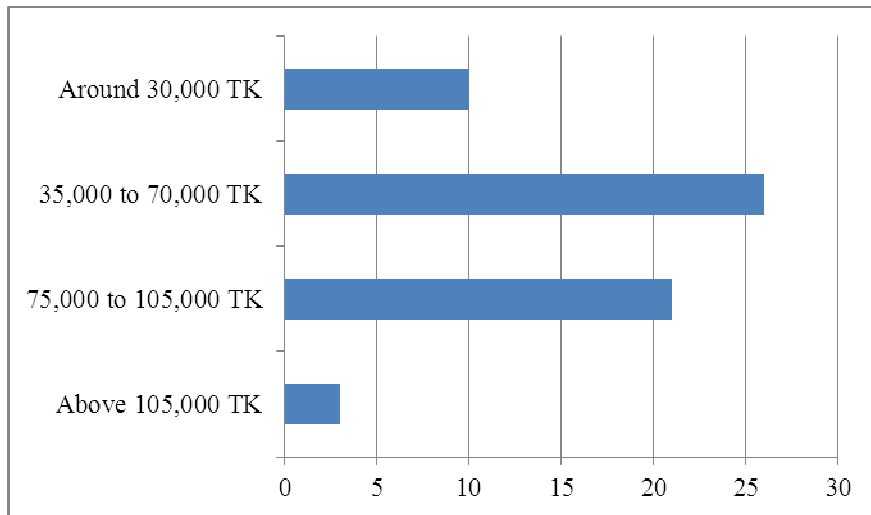
Age of the customer	No. of Customers	Percentages
18-25	9	15.00
26-33	14	23.33
34-41	18	30.00
42-49	11	18.33
50-57	4	6.67
58-65	3	5.00
Above 65	1	1.67

About 30% of the jewellery customers are 34 – 41 years old. It is also observed that the age of the respondents mainly centralize in the range of 20 – 45 years old. However, people more than 50 years do not prefer to go for jewellery shopping, see table 1.



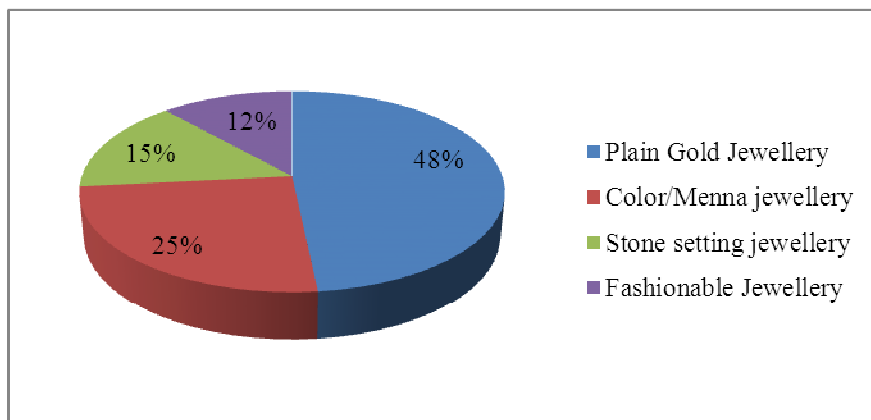
**Fig 1: Occupation of the customers**

More than half of the jewellery customers are female. From the fig 1 it can be seen that 34% of the total customers are housewives. Customers with occupation service and business come in the second position, each of which comprise of 25% of the respondents. Income range of the jewellery buyers varies widely, however majority of the respondents range is BDT 75,000 to BDT 150,000, see fig 2.



**Fig 2: Income range of the customers**

Very interestingly, most of the people buy jewellery as an investment. However, people also buy gold jewellery for wedding, for personal use and also as a gift. People usually prefer to buy 22 karat gold. There are various types of gold ornaments, e.g., plain gold, colour jewellery, stone setting jewellery and fashionable jewellery, are available in the market, still half of the people buys plain gold, see fig 3. Among the different types jewellery items customers prefer ring, chain and necklace.



**Fig 3: Jewelry Category**

#### 4.1 Factor analysis Results and discussion

The respondents were asked to rate how much emphasis was placed on a set of aspects when buying any gold jewellery. To find the factors that the respondents considered important when they buy a jewellery item EFA has been used. Factor analysis is statistical approaches that can be used to analyze inter relationships among a large number of variables and to explain these variables in terms of their common underlying dimensions (factors). Therefore, using principal component factor analysis with varimax rotation, 20 components, i.e. aspects considered buying any jewellery, were analyzed.

**Table 2: KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.675
Approx. Chi-Square		564.352
Bartlett's Test of Sphericity	df	190
	Sig.	0.000

**Table 3: Factor analysis and reliability testing results**

Factor Interpretation	Loading	Variables Included in the Factor
<i>Factor 1: Operational and marketing Factors</i>		
Percentage of variance explained = 25.75%	0.797	Customers respond positively to manufacturers' operational and marketing initiatives when;
Alpha = 0.853	0.74	Discount is offered
Eigen value = 5.151	0.715	References from previous customers
	0.695	Shop Locations are convenient
	0.688	Availability of Stone jewelry
	0.668	Enabling Credit Card Facility
	0.626	Availability of Branded items
	0.626	Expected Country of Origin found
	0.573	Reliable commercial advertisement
	0.545	Color of the product as an important feature
	0.543	Convenient purchasing policy
	0.371	Item is durable enough to complete expected life
<i>Factor 2: Perceived Quality</i>		
Percentage of variance explained = 15.81%	0.791	Customer perceive quality, on the basis of
Alpha = 0.737	0.724	Weight of the jewelry item
Eigen value = 3.162	0.545	Quality
	0.518	Trust on the manufacturer
	0.506	Ethics
	0.356	Price of the product
		Conformance to desired design
<i>Factor 3: Serviceability and Conformance</i>		
Percentage of variance explained = 10.69%	0.755	Customers' perception toward Serviceability and Conformance;
Alpha = 0.644	0.651	Diversified facility service
Eigen value = 2.138	0.476	Availability of after sales service
		Importance of dealing with customer

First we tried to ensure that the data were suitable for factor analysis. Therefore, we tested all the variables using both the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy (MSA) and Bartlett's test of sphericity. Results of these tests are presented in the table 2. The KMO measures the sampling adequacy which should be greater than 0.5 for a satisfactory factor analysis to proceed. If any pair of variables has a value less than this, consider dropping one of them from the analysis. For our data, we obtained, as seen in the Table, a KMO value of 0.675, which is good value. Bartlett's test is another indication of the strength of the relationship among variables. From the table 2, we can also observe that the Bartlett's test of sphericity is significant, i.e., its associated probability is less than 0.05. Hence, KMO and Bartlett's Test confirms that our data is perfect for factor analysis (Hair et al., 1998).

The factor analysis of the 20 variables has yielded three factors explaining 52.25% of the total variance. Analyzing the factor loading, i.e. the correlation of each variable and the factor, can help in deriving a new construct. In this case, a loading was considered significant if it had an absolute value higher than 0.30. Since we had a factor solution in which all the variables had at least one significant loading on a factor, we identified the following three factors. Table 3 shows the results of factor analysis.

As table 3 shows, Factor 1 captures eleven items of Operational and Marketing Factors that accounted for 25.75% of total variance. Factor 2 captured six items of Perceived Quality that accounted for 15.81% of total variance, namely, Design, Price, Trust, Weight, Quality, and Ethics. Factor 3 comprised three items of Serviceability and Conformance that explained 10.69% of total variance.

The Cronbach's  $\alpha$  measure of reliability for the three factors were 0.853, 0.737, and 0.644, respectively. Although  $\alpha$  value of 0.70 and higher is often considered the criterion for internally consistent established factors (Hair et al., 1998), Nunnally (1978) suggests that  $\alpha$  value of 0.50 and 0.60 is acceptable in the early stages of research. Since, Cronbach's  $\alpha$  value for each factor is above 0.50; both factors are accepted as being reliable for the research.

## 5. Conclusion

This study analyzed the important factors to reveal the jewellery customer psychology. Data used for this research was gathered using a questionnaire survey from new market, Dhaka. By analyzing the demographic information, it has been observed that majority of the customers are female who are basically housewife. These customers are aged between 34 to 41 years. Moreover, the customers prefer to buy plain gold instead of other

fancy jewellery items.

Later on, to figure out the important factors of purchasing gold was analyzed using exploratory factor analysis. As a result of analyzing the factors that are considered important in purchasing jewellery, it was possible to identify three main factors: Factor 1: Operational and marketing Factors, Factor 2: Perceived Quality, and Factor 3: Serviceability and Conformance.

This study can be used as a very good instrument for the managerial decisions making in the jewellery business. As found from demographic analysis, the entrepreneurs and policy makers in this business should focus their marketing campaigns for the middle aged housewives. Additionally, to enhance the jewellery business, managers can work on other customers groups as well. Identified three major factors drive the customers when they purchase gold jewellery. If the entrepreneurs design their business keeping in mind these factors, they can easily increase the profitability and market share.

This is a preliminary study in consumer behaviour in Bangladeshi jewellery market. However, it has been conducted for a specific market on a limited number of respondents which can be further extended for a broad area or region. There is a potentiality of further research related to market opportunities in local and international area, worker skills development, professionalism and their impact on business. These research contributions can help make Bangladeshi jewellery industry to increase the market share in the global market.

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