

## **A conceptual model of reference price formation for consumer services**

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### **ABSTRACT**

One area of the consumer buying decision process that has not been examined broadly is the way in which consumers evaluate price, especially as it pertains to services. Price represents the cost of a product to the consumer and it is supposed to be equal the perceived value received in return from the producer. However, when it comes to services, the way in which the consumer evaluates this trade-off has not been investigated well. This study examines ways in which consumers establish internal reference prices when purchasing services. The study draws on prior research in the area and develops a comprehensive typology, as well as a conceptual model, of the reference price formation process. It concludes by developing a series of testable hypotheses and recommendations for future study of the construct.

Keywords: services, reference price, pricing, internal price, service quality

## INTRODUCTION

The consumer buying decision process has been well studied by marketing researchers. However, the divergence in the findings of the authors indicates that the process is not completely understood. There have been a number of theoretical frameworks developed including prospect theory (Kahneman and Tversky 1979), adaptation-level theory (Helson 1964), transaction utility theory (Thaler 1985) and multi-attribute evaluation (Yates and Jagacinski 1979) but none appear to adequately and completely describe the process, especially in explaining the role of pricing in the choice decision. Specifically, the role of *internal reference prices* in the buying decision has not been fully understood. Virtually all prior research in the area of reference prices has focused solely on the decision-making process in *goods markets*. There have been few studies addressing the role of reference prices in the consumer decision making process when considering the purchase of services. Since services are different from goods, as demonstrated by market researchers (Shostack, 1977; Thomas, 1978; Berry, 1980; Enis and Roering, 1981), then the mechanisms which underlie consumer behavior in the service environment must be evaluated in the context of services. Marketing concepts researched in the context of goods markets may not be directly applicable to services market. For instance, prior goods-related research on reference price formation has focused on the consumer decision among goods brands or commodities (Jacobson and Obermiller, 1990; Dickson and Sawyer, 1990; Biwas and Blair, 1991; Rajendran and Tellis, 1994; Putler, 1992; Kalwani, Yim, Rinne, and Sugita, 1990; Lattin and Bucklin, 1989; Urbany and Dickson, 1991). As pointed out by Murray (1991), “service potentially represents a range of products for which directly comparable brands typically do not exist (pp 15).” Therefore, research addressing how consumers perceive relative prices when making purchase decisions among branded goods may not be generalizable to purchase decisions among services.

This research paper is exploratory, in nature. A review of the research literature indicates that little prior research has been conducted in this area of services marketing. Therefore, a clear gap exists. This paper will attempt to address this gap and add to the theoretical body of literature concerning pricing in services marketing. The paper will have three goals. First, it will review the current stream of literature concerning reference price formation in the goods market. How do consumers form internal reference prices (used as a basis on which to compare pricing stimuli exposed to when deciding among one’s evoked set)? Much of the framework developed within this paper will be grounded in prior research. Second, it will propose a theoretical model which describes how consumers form reference prices when evaluating the price of services. This model will be grounded in prior research on reference price formation in goods markets, atmospheric and services quality expectations. The three streams of literature will be joined to develop testable hypotheses for further investigation. Finally, suggestions will be made concerning the implications of this model to contemporary managers of service providers.

## FORMS OF REFERENCE PRICE

One of the research questions addressed within concerns how consumers form reference prices when making service price evaluations. The reference price formation mechanism is important to understand for several reasons. First, other researchers have demonstrated that consumers do not simply compare prices, in an absolute sense, among competing brands during the decision making process (Emery 1970; Monroe 1973). Instead, they evaluate a particular

brand's price in relation to its "fair price" first. This fair price, or reference price, is based on a number of prepurchase variables and cues, each of which will be introduced later in the paper. Second, theoretical models which explicitly include a term which represents a reference price have consistently produced improved model fits over those which omit such terms (Guadagni and Little 1983). In addition to evaluating a product's current retail price and the prices of other brands within one's evoked set, consumers evaluate the current prices faced with some other internal price stored in memory. This internal price has been examined and described differently by a variety of researchers. Some examples of this internal comparison price include the reservation price (Scherer 1980), perceived price (Della, Bitta and Monroe 1974; Emery 1970; Monroe 1973), evoked price (Rao and Gautschi 1982), and expected price (Kalwani, Yim, Rinne and Sugita, 1990). Although these researchers have identified distinct phenomenon, each of the constructs has something in common. Each describes the use, in one form or another, of a reference point used by consumers in price evaluation. Reference points have been defined as any stimulus which "other stimuli are seen in relation to" (Rosch, 1975). Herein, reference price will be defined as the "standard price against which consumers evaluate the actual prices of the products they are considering (Rosch 1975)." Although this definition seems simplistic, its application to the consumer reference price formation is intriguing. For instance, the standard can be formed both internally by the consumer as well as derived from external marketing and environmental stimuli. This differs significantly from the other relative price constructs mentioned earlier (expected price, reservation price, etc.), which are all entirely internal price perceptions. Consumers form reference prices by seeking both external and internal information sources, especially in the intangible service environment. This is important, for several reasons, when one considers the situation faced by consumers when examining service provider options. First, due to the intangible nature of services, direct comparison among various service providers may not be possible. Each provider must be evaluated on the basis of service attributes offered (which may differ significantly among various providers), the confidence the consumer has in the ability of the provider to deliver such attributes, and the applicability of the attributes to satisfaction of the consumer's needs. For instance, when seeking a firm to provide residential carpet cleaning services, service providers may differ in the number of rooms cleaned in a bundled price (\$29.99 for two rooms and a hallway or one large room and a set of stairs), the size of a typical room (100 or 150 square feet), the length of the warranty offered (30 days or "lifetime"), the reputation of the firm, its perceived ability to deliver on the level of service promised (service-marked such as Sears or Rug Doctor or non-branded such as John's Carpet Cleaning), or whether a very soiled carpet can be adequately cleaned to the consumer's satisfaction (as opposed to being replaced). These considerations must be evaluated based on external information (unless the consumer has had extensive experience with a particular provider). Second, even if the consumer has extensive experience with a particular service provider, internal, memory-based pricing information concerning services may not be useful. It has been demonstrated that consumers do not retain pricing information in memory very accurately when evaluating professional services (Zeithaml and Graham 1983). Finally, services cannot be directly compared like brands on a store shelf. Consumers must conduct extensive information search since each service provider is located in a completely different location, typically. For instance, the consumer may want to visit the provider's place of business to examine the physical environment and evaluate the personnel, call various providers to directly request pricing and other information or contact the provider via telephone, direct response mail

advertising, or computer to request general information. It should be clear from these issues that external information must be an integral part of any service price formation model.

Klein and Oglethorpe's (1987) proposed typology of reference prices provides a good summary of types various types of reference prices which take into account both internal and external stimuli (See Figure 1, Appendix A). The authors developed this typology from personal interviews and a review of literature on the subject. The authors point out that further research is necessary to determine if these types of reference prices are distinct types or dimensions of a broader construct of reference price. However, within this paper, we are simply using their broader definition of a reference price because it is the only research which includes external information in the formation process. The first component of the author's reference price typology is aspiration prices, which represent internally established objectives for a product or service. The second component is market prices, which are determined by exposure to marketing stimuli. Finally, historical prices are based on internally recorded prior consumer experience with products or services in a particular product or service class. It is assumed that these three distinct price components are actually dimensions or a subset of a broader construct of reference price for services. Unlike other constructs, such as Thaler's (1985) expected or fair price, this representation of reference price takes into account external stimuli in addition to the internal, memory-based component.

Reference prices have been analyzed by other researchers in respect to the way consumers use them to evaluate price differences among brands (or commodities), in relative rather than absolute terms (Biswas and Blair 1991; Jacobson and Obermiller 1990; Lichtenstien and Bearden 1989; Thaler 1985; Putler 1982; Urbany and Dickson 1991). However, in only a few instances have marketing researchers attempted to determine *how* consumers establish or form these reference prices (Rajendran and Tellis 1994; Puto 1987; Rowe and Puto 1987; Klein and Oglethorpe 1987; Biswas and Blair 1991). The following section will review the findings of these authors in the context of goods markets. This provides a basis for our framework of service reference point formation. The proposed model of service reference point formation herein will borrow from the findings of this body of research and integrate two additional components familiar to services marketers—atmospherics and service quality.

### **Contextual Components of Reference Price**

Contextual effects on reference price formation have been identified in a few studies (Rajendran and Tellis 1994; Biswas and Blair 1991). These effects are usually examined in relation to inter-brand evaluations. For instance, a contextual component of reference price may be formed as a result of comparisons made among brands' prices on a store shelf at the point of purchase (Rajendran and Tellis 1994) or by comparing an encountered price to a manufacturer's suggested retail price or other retailer-offered comparison price (Biswas and Blair 1991). The formation of a reference price may also be affected, contextually, by the classification scheme used by the consumer. This classification scheme is usually based on perceived quality demarcations established by the consumer. For example, one reference price may be formed for sunglasses of high perceived quality such as Ray Bans and Vuarnet (\$100) while a lower reference price may be formed for lower perceived quality sunglasses such as Foster Grants (\$15) (Klein and Oglethorpe 1987). Therefore, the "type" of sunglasses a particular brand is classified as will act as a contextual cue to establish reference price. The applicability of this contextual component is affected by the level of homogeneity of the product class. If the product

class is relatively homogeneous, there is a greater probability that there will be only one reference price formed for the entire class. If, on the other hand, the product class is heterogeneous (as in the sunglass example), there may be multiple reference prices formed by consumers. This averaging of similar products has been demonstrated empirically (Emery 1970). Alternatively, it has been demonstrated that consumers may simply use the highest and lowest price encountered as endpoints from which to compare other products in a category (Nwokoye 1975). This ignores the formation of multiple interim reference prices based on quality.

Other contextual components that have been identified include consumer individual characteristics and situational factors (Kalwani 1990; Klein and Olgelthorpe 1987). Individual characteristics include level of involvement with the product, level of product knowledge, deal proneness of the household and importance of attributes to the consumer. The most important situational factor is the store characteristics.

### **Temporal Components of Reference Price**

Several prior studies have found support for a temporal component of reference price. This is frequently cited as the internal, memory-based component used by consumers in the formation process. Past price paid for a particular brand is an example of this component (Kalwani, et al. 1990; Rajendran and Tellis 1994). The timing of the last purchase or exposure to price is important. Price stimuli recently experienced are much more salient than those faced in the distant past (Klein and Oglethorpe, 1987). As discussed under contextual components, if the product category is heterogeneous, multiple reference prices may be formed. This has implications for the temporal component, as well. If the product category is relatively homogeneous, one common reference price may be formed to represent the entire category, based on the mean of past prices or price trends. If, on the other hand, the category is heterogeneous, multiple reference prices may be formed based on the mean of past prices paid for each brand. Rajendran and Tellis (1994) found support for the formation of multiple reference prices based on the mean of each brand's past price. As a note, the type of mean calculated (simple, weighted, geometric) did not affect the results.

### **ATMOSPHERICS**

The impact of the physical environment has been established to be a significant determinant of customer satisfaction, particularly as applied to the service environment (Bitner 1992; Bitner 1986; Booms and Bitner 1982; Zeithaml, Parasuraman, and Berry 1985). Signs of the physical environment in the services context include ambient conditions (temperature, air quality, noise, music, odor), space/function (spatial layout, equipment, furnishings), and signs, symbols, and artifacts (signage, personal artifacts, style of décor) (Bitner, 1992). A professional and pleasing physical environment is at least, if not more, important to service providers than for goods marketers. The physical environment acts as the service organization's "factory." Potential customers examine this component of the external marketing environment, even prior to service purchase, for cues signally quality and capabilities (Berry and Clark 1986). Importantly, potential customers use information garnered from the physical environment to evaluate the firm's image (Bitner 1992). This image communicated by the physical environment may be the only pre-purchase information the potential customer can use in evaluating the firm's capabilities and relative advantage over its competitors. Firms with enhanced images should lead consumers

to expected higher levels of quality, if we use this perceived image as a surrogate for brand equity (in the absence of service marks). In turn, higher levels of expected quality should lead the consumer to establish higher reference prices, using the price-quality heuristic. The price-quality heuristic has been well established by a number of both goods and services studies (Zeithaml 1988).

## **SERVICE QUALITY**

Services are different from goods in a number of respects. Specifically, researchers have determined that services are different from goods on four dimensions: inseparability, intangibility, heterogeneity, and perishability (Parasuraman, Zeithaml, and Berry 1985). The most important departure point between services and goods is the heterogeneity of services. The level of quality and expected quality is starkly different from provider to provider, from employee to employee and from customer to customer (Parasuraman, Zeithaml, and Berry 1985). Even though goods do differ in level of quality based on brand, one can expect that intra-brand output is of similar quality with little variation. And, in general, variation between brands is not as significant as it is between service providers. For instance, when consumers purchase goods, they evaluate a number of visual, prepurchase, tangible cues which signal expected quality levels such as the style in packaging, hardness, color and degree of fit. In contrast, quality variation within and between service providers varies widely and cannot be easily evaluated pre-purchase. There are fewer physical or tangible cues to signal expected quality. Additionally, the attributes of a particular service offering may differ significantly (see carpet cleaning example cited earlier in this paper), thus, making direct comparison difficult.

Parasuraman, Zeithaml, and Berry's (1985) service quality model provides insight into how consumers evaluate the quality of a service offering (See Figure 2). The model was developed from the responses of a number of executives in a cross sectional focus group study. For the sake of brevity, readers can reference the original work for an entire explanation of the model. The model posits that expected service quality is determined by a number of prepurchase as well as post purchase evaluations, made by the consumer. The pre-purchase evaluations are particularly useful for our reference price formation model. The segments of the service quality model, depicted in Figure 2 (Appendix B), capture prepurchase information include Word of Mouth (WOM), Personal Needs, Past Experiences, Tangibles, and Credibility.

Consumers can evaluate the level of expected quality of a service provider by examining the physical evidence of the service. Such tangible evidence includes the physical facilities, the appearance of the personnel, the appearance and level of perceived complexity of the tools and equipment used, written evidence of the service provider such as statements and promotional literature, and the appearance of other customers in the service facility. This evidence of quality can be rather easily examined by a cursory visit to the service provider's facility prior to selection or by examining information received following a request for such information. For instance, an individual wishing to select a bank for personal banking services can visit several banks and collect such stimuli by observation and collecting promotional information without ever having to even talk to any of the bank's representatives.

Credibility, as defined by Parasuraman, Zeithaml, and Berry (1985), is "trustworthiness, believability, honest...having the customer's best interests at heart." Examples of how credibility is communicated to the customer include the company name, the company reputation, personal characteristics of the contact personnel, and the degree of "hard sell" involved in interactions

with the customer. Again, the relative credibility of a firm can be judged by potential customers prior to selecting a service provider.

In addition to using tangible and credibility information to establish an expected service quality level, consumers also take into consideration information garnered from others about the service provider (word of mouth), past experience and personal needs (Parasuraman, Zeithaml, and Berry 1985). These sources of information are used to further refine the level of expected service. Word of mouth information can be gathered from both personal as well as expert sources.

Expected service quality plays a key role in reference price formation due to the price to quality relationship demonstrated by many authors (see Zeithaml, Valarie A. 1988 for a complete review of literature on this topic). Due to the intangible nature of services, consumers use price as a cue that signals service quality. This heuristic is especially important in the case of “pure” services where there are few physical signals for consumers to evaluate potential service quality. Therefore, expected quality should contribute to the formation of a consumer’s reference price.

If consumers can not directly compare service offerings of competing firms directly (due to their heterogeneity) and can not compare these offerings in a single “store” (due to their intangibility), how can consumers form any sort of reference price for a particular service such as carpet cleaning? The proposed model (See Figure 3, Appendix C) attempts to answer this question, which has not been done adequately by other researchers.

The model is derived from the three streams of research reviewed earlier---reference price formation in goods markets, atmospherics and service quality. Each of the components of the reference price formation model for services can be experienced or gathered by the consumer prior to the purchase decision. Below, a brief explanation of the variables in the model will be presented, as well as testable, a priori hypotheses based on the assumptions of the model. H1 represents the test of the overall model’s significance.

H1: Consumers will form reference prices for service offerings from stimuli including temporal and contextual factors, individual characteristics, atmospherics and credibility.

The temporal and contextual factors are primarily grounded in prior research in reference price formation for goods. However, several components have been modified slightly to be more applicable to the service environment. Support for the past price component in any reference price model has been found by a number of researchers. Additionally, as reported earlier, consumers typically estimate a mean of these past prices for when forming a reference price. This variable will have to be manipulated by having subjects report prior purchase prices.

H2: Consumers use the mean prior prices in a service category as information during the reference price formation process.

The contextual factors take into account the need for consumers to collect relative pricing information from external sources rather than from direct observation of the store shelf. Three contextual dimensions that can be testing are advertising messages by service providers, word of mouth advertising (personal and expert) and the frequency of promotional pricing activity. The advertising and word of mouth components provide the consumer with the ability to collect competitive pricing information. Again, it is hypothesized that consumers use this information to

form a mean of available information. The frequency of promotional activity signals to the consumer the believability of the pricing information. Frequent promotional activity may be interpreted by consumers that a promotional price is not believable and, therefore, may not be included in calculating the mean for a product category.

H3: Consumers use the mean advertised price within a product category during the reference price formation process.

H4: Consumers use the mean of personal word of mouth information during the reference price formation process.

H5: Consumers use the mean of expert word of mouth information during the reference price formation process.

H6: Service categories with higher levels sales promotional activity will have lower reference prices than those service categories with lower levels of promotional activity.

Individual characteristics are very important in services marketing because the consumer plays an integral part in the successful delivery of any service offering. Therefore, it is important for the model to include an individual variable to account for its contribution to the reference price formation process. The variables that make up the composite individual characteristic component are:

- Attribute requirements: Some consumers require a broader range of service attributes than others do. In other words, some consumers are willing to do more of the work required during service deliver than other consumers. This will be measured on an interval level on a scale of 1 to 7.

H6: Consumers who require broader service attribute requirements will form higher reference prices than those with more narrow requirements.

- Importance of Attributes-Some consumers may not view a broader range of service attributes as valuable as do other consumers. For instance, clean, friendly and professional-looking dry cleaning representatives may be more important than the actually cleanliness of the laundry to some consumers. This will be measured on an interval level.

H7: Consumers who value service attributes more will form higher reference prices than those who value such attributes less.

- Deal Proneness-Consumers vary in their proneness to react to price deals offered by service providers. Those who react to deals may have lower reference prices since they expect service providers to always continue to offer discounts. This will be measured on an interval level.

H8: Consumers who are more deal prone will form lower reference prices than those who are not as deal prone.

- Price sensitivity-Certain consumers are more price sensitive than others. This may be due to individual differences based on income level or access to information about products and services. Those who are more price-sensitive may have lower reference prices than those less sensitive to prices. This will be measured on an interval level.

H9: Consumers who are more price-sensitive will form higher lower reference prices than those who are less price sensitive.

- Service category experience-Service experience, thereby knowledge, may differ by consumer. This may affect the formation of a realistic reference price. Those who do not know much about the service category may form reference prices that either under or over estimate the true mean market price. This will be measured on an interval level.

H9: Consumers who are more experienced with a service category will form reference prices that are more accurate than those less experienced in the service category.

Atmospherics also play an important role in the formulation of reference prices. This variable is derived from specific research on atmospherics (Bitner 1992) and service quality. The service quality component of the variable is based on the tangible evidence consumers gather from services. The following is a brief description of each variable comprising the composite atmospherics variable:

- Ambient conditions-Consumers' reference price will be dependent upon the physical environment faced when they enter the service provider's establishment prior to purchase. These conditions include temperature, air quality, music and odor. Pleasing ambient conditions (producing approach behavior) should result in a higher reference price. This will be measured on an interval level.

H10: Consumers will form lower reference prices for services with unpleasant atmospherics.

- Spatial Layout-The spatial layout of the service establishment is an important signal to the consumer concerning potential firm capabilities. Components of this variable include the layout of the office (open/cluttered), equipment (advanced or outdated) and furnishings. This will be measured on an interval scale.

H11: Consumers should form higher reference prices for establishments with open, technologically-advanced and modern furnishings.

- Signs and Symbols-Important cues for the consumer upon entering the service establishment include signage, personal artifacts and style of décor. These cues indicate the level of professionalism and modernness of the service firm. This will be measured on an interval scale.

H12: Consumers will form higher reference prices for firms with professional and modern signs and symbols.

- The other variables that comprise the atmospherics composite variable address appearance and demeanor of employees and other customers. These variables will be measured on an interval level.

H13: Consumers will form higher reference prices when exposed to favorable employee responses during the initial visit.

H14: Consumers will form higher reference prices when exposed to favorable customer appearances during the initial visit.

H15: Consumers will form higher reference prices when exposed to favorable service employee appearances during the initial visit.

Finally, the credibility variable identified through service quality literature will contribute to the reference point formation process. The subjects will be asked if they know the service

company's name (dichotomous/categorical variable) and rate the level of the firm's reputation (interval level data).

H16: Consumers will form higher reference prices when the name of the service provider is known to the consumer.

H17: Consumers will form higher reference prices for firms with a better reputation.

## **RESEARCH DESIGN AND DISCUSSION**

An experimental design would probably be most appropriate for this research. There are a number of variables that need to be manipulated and isolated. This would maximize internal validity. However, observational studies are more appropriate for the service sector to capture the reaction of subjects in the true setting, thereby, reducing the potential for contamination. Therefore, we would have to select service providers in a particular industry (banking, for instance) which vary in the variables of interest---atmospherics and credibility. The industry would have to vary enough to allow selection of environments which manipulate the variables significantly. The sample would be comprised of consumers familiar with the particular industry selected. The subjects would be asked to enter the establishment and examine the environment. Promotional literature would be provided for their review. The results would be gathered via a survey requesting that the subjects rate the service establishments and provide perceived pricing information.

Since most of the data will be collected at interval level (semantic differential scales), multivariate statistical tests can be utilized. First, we would examine the descriptive statistics and scatterplots to ensure that there are no outliers in the data or other sample distribution problems (non-linear). Second, since there are a number of variables and dimensions, we should next examine the data using factor analysis. This will provide verification of our original a priori framework. We have proposed that reference price formation is comprised of five variables, with a number of dimensions. If our model is valid, the results of the confirmatory factor analysis should indicate five factors. Second, we would run a regression analysis to determine if our model, overall, is significant. The regression analysis would also address many of the remainder of the hypotheses as well. The hypotheses have been worded in such a way that we can examine direction as well as significance.

## **CONCLUSION**

The proposed research has addressed a gap in the marketing literature which has been identified. The results should provide managers with information concerning reference price formation in the service sector. Depending upon the results, a variety of opportunities exist for application for practitioners. First, understanding how consumers form reference prices will assist managers in developing pricing strategies. If it turns out that consumers are strongly affected by promotional pricing offering trends, managers can slowly "teach" consumers to expect higher prices. This will improve the firm's net margin without forcing consumers to switch providers. Second, in the service sector, pricing is based more on image or what the market will bear, rather than cost markup. Therefore, it is important for managers to understand the relationship between price, quality, and image. Third, perhaps several of the variables posited to contribute to the reference price formation process will explain a significant portion of the

variation in the overall model. For example, if atmospherics are the most important component of the model, managers will be able to focus their limited resources on bolstering the variables which comprise the atmospheric composite variable.

This research can be easily expanded into other areas. The underlying theory of reference prices is grounded in prospect theory. The ability to frame service outcomes gains and losses can be examined empirically. Also, this research focused solely on the initial reference price formation process. The entire consumer decision process can be examined beyond this point. For instance, other researchers have found that the reference price may be an iterative process. That is, the initial reference price is constantly updated as new information is gathered. This stream of literature is primarily grounded in assimilation level theory. Finally, since this is exploratory research, the findings may provide additional directions for study.

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**APPENDIX**

Type of Price	Examples:
Aspiration Prices (Internal)	The price I would like to pay
	The price I would consider a “good buy”
	The most I would ever pay
	A reasonable price
Market Prices (External)	The average retail price
	A particular price I’d seen or heard
Historical Prices (Internal)	The average price I pay
	The last price I paid
	The price I usually pay

\*From Klein and Oglethorpe, 1987

Figure 1- Typology of Reference Prices\*

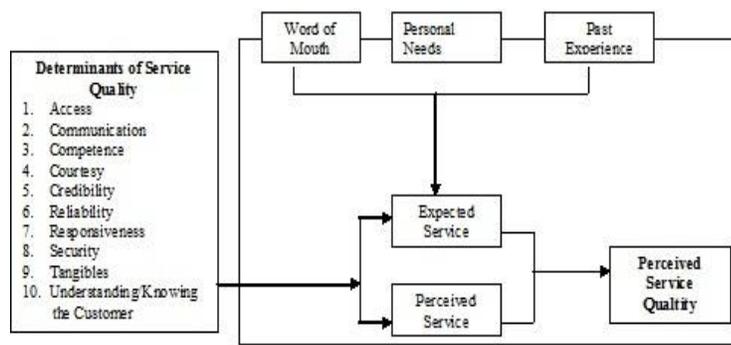


Figure 2 - Model of Service Quality

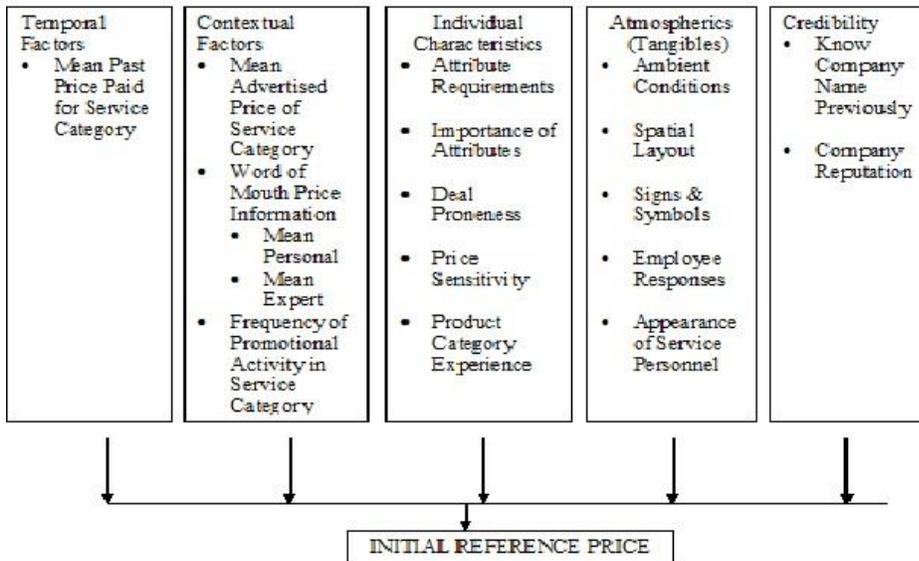


Figure 3 - Proposed Reference Price Formation Model for Services

