Abstract. In today’s ever changing competitive environment, business cannot survive unless they satisfy their customers. The delivery of after sales service by a company is critical in satisfying customer needs and perceptions. In order to have quality after sales service a proper delivery system has to be in place. This is an empirical study on after sales quality of Pakistan’s automotive battery manufacturer. The research measured the quality of service in Atlas Battery, selling product with the brand name of AGS by using the Servqual method. The data was collected using an instrument from previous study to study the impact of quality of after sales services on customer satisfaction. The main variables effecting customer satisfaction are product quality and social responsibility. The results reveal that customer satisfaction increases with better service delivery.

Keywords: Sales service, customer expectation, human capital, service delivery system, customer satisfaction.

AN EMPIRICAL ANALYSIS OF AFTER SALES SERVICE AND CUSTOMER SATISFACTION

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1. Introduction

The concept of customer service started in 19th century. In after sales services delivery of service, installations and warranty are significant elements. Customer satisfaction level can be increased either by lowering the expectations of the customers or by improving the customer’s perception of a service (McColough, Berry and Yadav, 2000). When we make a purchase we have many yard sticks to measure the quality of the product being bought i.e. style, hardness, color, label, feel, packing, the manufacturer etc. If we are not aware of all these then, the price of a product indicates its quality through which the supplier gets the clue of the difference between the service expected and the actual service delivered to the customer (Zeithaml, 1981).

If the supplier keeps providing quality service to the customer he in fact conforming to the customer expectation consistently (Lewis and Booms, 1983) and gets awareness about the required type of service delivery system. The satisfied customer is an advertisement in itself which is more reliable for others than any other advertisement technique (Bhave, 2002). Service must be designed in a manner that it is convenient for the customers to experience it. The two most important aspects are range of service and operating time, service provider must offer convenient hours to the customers to experience that service (Howat et al., 1996, Ko, Pastore, 2009).

The managers and the researchers should be clear about the difference between satisfaction level and quality of the service perceived by the customers. This research study will help bridge the gap of previous researches and provide direction to the service providers in prioritizing their objectives. This study will help them concentrate on improving their service to retain the satisfied customer or to maximize the delivery of the perceived quality of the service.

2. Literature Review

A number of research studies have been conducted recently to highlight the relationship of customer satisfaction and quality of services (cf. Bitner, 1990; Bolton, Drew 1991; Parasuraman, Zeithaml, Berry, 1985). Perceived service value is one of the competitive advantage factors and fundamental predictor of customer satisfaction, brand loyalty and financial performance (McDougall and Levesque 2000; Cronin, Brady, Hult, 2000; Anderson et al., 1994; Dodds et al., 1991; Zeithaml, 1988). Quality of after sales service relies heavily on the organization because after selling a product usually organizations feel that it is wastage of resources to invest in customer satisfaction. The sole motive of designing a system for customer to experience a service is to satisfy him so that the organization may get economic benefits (Parasuraman, Zeithaml, Berry, 1985; Greising, 1994; Rust, Zahorik, Keiningham, 1995).
Service quality is not a product manufactured in a plant which is delivered intact to the customers. Service quality involves human capital and the way the service staffs delivers that service (Lehtinen, Lehtinen, 1982; Bhatti, Waris, Zaheer, Rehman, 2011c). The quality of service helps increase the market share if perceived quality of service is up to the mark, or lose it if the perceived quality of service is bad (Anderson, Zeithaml, 1984; Buzzell, Gale, 1987). Customer satisfaction is only the base line and not enough for survival in present intense competition scenario. So the aim is a bit higher and it focuses on gaining customer loyalty through enhancing customer’s perception about quality of service (Hu, Jay, Thanika, 2009). Service quality is a multi dimensional phenomenon (Vandamme, Leunis, 1993; Cronin and Taylor, 1992). The customer does wish to get the best return of his money in shape of best product or services he buys. If the customer is enjoying service experience then he/she normally returns to the provider and may bring along friends and colleagues. On contrary dissatisfied customer will share his/her experience with others and organization may never know what is going to hit it (Bowman and Narayandas, 2001; Machleit and Mantel, 2001). While comparing the product with the competitor’s, customer sets the priority about its quality, why it is not good like the other product (Bhatti, Khan, Ahmad, Hussain, Rehman, 2011). This is basically the failure of total customer satisfaction which in turn is the failure of product. In an ever evolving technological environment new and upgraded products with value additions need to be produced to meet the customer needs and growing expectations (Porter, 1985). Therefore the ability to produce quality product is very necessary besides the installation of new machinery (Davidow, 1986).

In today’s competitive environment delivery of quality service is an essential element of success and for the delivery of quality service competent staff plays a pivotal role (Dawkins, Reichheld, 1990; Parasuraman, Zeithaml, Berry, 1985; Reichheld, Sasser, 1990; Bhatti et al. 2011b). The ability of service providing staff and the implementation of their skills can be enhanced by providing them job satisfaction. The interaction of the customer and service providing staff is the base of perceived service quality (Solomon, Surprenant 1987; Gwinner, Bitner, Brown, Kumar, 2005). After sales service staff should not “Pass The buck” or should not pass the blame and must assure the customer that there is someone who is available for assistance. Never give a runaround experience to the customer after selling your product. Personal interaction of the service staff with the customer with its four sub-dimensions i.e. attitude, behavior, expertise and problem solving has the most significant importance in perceived services quality (Bowen, Schneider, 1985; Chase, Bowen, 1991; Kohli, Jaworski, 1990; Gronroos, 2008).

The culture of the companies concerning delivery of outstanding services reflects from the performance and receptiveness of the employees deputed for the customer interaction. So the focus towards the training of the customer service staff in connection with the understanding of organizational culture, policies and ingredients
of service and their role in delivery of service and enhancement of skills and responsiveness along with their motivation level which will increase their effectiveness in the achievement of improved quality of service. As a result the efficiency of the firm regarding sales and customer pull will also be increased (Bush et al., 1990; Shaharudin, Muzani, Yusof, 2009; Bhatti, Zaheer, Rehman 2011).

The process through which a service is delivered determines the quality of service and pivotal for the customer to gather his notion about perceived service quality (Cronin et al., 2000; Parasuraman, Grewal, 2000). All marketing activities concerned with the services have sole objective of satisfying customers’ needs and wants (Machleit, Mantel, 2001). SERVQUAL is commonly used to measure service quality. That model has five dimensions namely tangibility, reliability, responsiveness, assurance and empathy. Four out of these five mainly concerns with service delivery and the factor of reliability is concerned with the perceived service quality of customer (Bebko, 2000).

The use of latest technology in delivering the service quality is imperative for the organizations (Bitner, 2001, Delone, McLean, 2003; Ding and Straub, 2008; Zeithaml et al., 2002). The direct or indirect transformation and changes in the market need to be changed by the technologically advance companies and the infusion of superb technology and striking the market first always pays in shape of good returns in the market based on information’s. Changes in technology appear like consecutive waves and the vision of the organizations to foresee the next change in shapes of these waves ensure their success (Arthur, 1996).

The systemization of services always enhances the quality of staff performance. An average worker or staff member can perform well if a proper system exists. Management should emphasis on performance perceived by the customers and importance of the strategies to guide the behavioral intentions in the right direction. It includes the meeting with the customers; desired service levels, emphasizing the prevention of service problem and effectively solving the problems of the customer in a cost effective manner. The organizations should be conscious about the impact of service quality on profits and what level of service quality must be delivered to retain customers (Zeithaml, Berry, Parasuraman; Iris Mohr- Jackson, 1998).

Before purchasing goods many tangibles give clue to the buyer about the quality of a product such as style, hardness, color, label, feel etc. In the absence of this information price of a service or product gives an idea about the quality of service or a product. If tangibles of service are discussed we have fewer clues then products. The tangibles of service can be the physical facilities of service provider, equipments available for, and the service providing staff (Mc Connel, 1968; Olander, 1970; Zeithmal, 1981). Services are not an object to touch or feel but they are performance. It is very hard to set the explicit standards of manufacturing regarding services.

Assurance of quality of so many services before their trial is impossible because we cannot count, measure, record, experience and confirm them. The companies may
face difficulty in knowing the fact about the evaluation of the service quality and its perception in the mind of the customers due to intangibility (Ziethaml, 1981). When a service provider has an idea how the service will be evaluated by the receiver only then the service provider will be able to make changes which results in customer satisfaction (Gronroos, 1982; Shostack, 1977) that a customer made on the basis of two important elements, service process and service outcomes comes (Dobhilker, Overby, 2005; Zenith et al., 1990).

Employees responsiveness, motivation, selling skills, attitude, training, clearer role and perception and knowledge of the after sales services are the elements which can be judged and have a tangible impact in the after sales service and plays very important role on the good will of the company and increase the credibility of the organization and enhance the trust and confidence of the customer. Tangibles of service include the physical surroundings represented by objects and the appearance of employees to welcome the customer comes up with compliments. Tangibles and reliability are the two determinants which can be known before purchase (A parasuraman, Valerie A. Zeithaml, Leonard L. Berry, 1985).

To provide a service up to the level of customer satisfaction is in interest of the service provider as well as in the interest of customer. Many executives of companies have realized that providing better service leads to improve financial gains (Germano, 1992, Kearns, Nadler, 1992). It is also a social responsibility to deliver what is promised by the service provider. The company must respond to the customer either by repairing or replacing the product as promised (Shaharudin, Mzani, Yusof, 2009). The firms that emphasis on perceived value through quality products or services are actually serving the customers and working for long term welfare of the people and setting the repurchase behaviors and executing their social responsibilities as well. A strong belief and faith of the customers about fair and honest dealing of the firm is a perceived reputation (Doney, Cannon, 1997, Drumwright, 1994). The customers having deep penetration have high concern about the product or service and increase their concentration on better awareness and knowledge regarding product or service and gratitude (Perry and Cacioppo, 1983, Zaickowsky, 1985).

TQM (total quality management) issue may not always results in a boom in sales so it may seem to companies that they are wasting their efforts. The organization will be ready to invest for customer satisfaction if only it finds that customer satisfaction will results in a sizeable profit growth (Newsweek, 1992). If we look at customer satisfaction as transaction specific perspective then it is based upon current experience of the customer using a service or goods as well as the previous experiences and also the anticipated future experience about that particular service or goods. Price is also a factor that determines the level of customer satisfaction though the quality generally not dependant on price (Anderson, Fornell, Lehmann, 1994).

There are two type of customer satisfaction (i) Transaction specified (ii) Cumulative, in transaction specified is a post purchase evaluation by the customer for a specific purchase. On the other hand cumulative satisfaction is an overall
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evaluation of the total purchase and consumption experience of a commodity or service (Boulding et al., 1993). In the light of previous research work, looking beyond the expectations of the customers should be the ultimate goal of the service providers in order to enhance the customer satisfaction (Zeithaml, Berry, 1985, 1988, Voss et al., 2004).

Figure 1. Conceptual Framework

3. Methodology

A quantitative method has been used to ensure the objectivity, to take a broad view and reliability of data in which all the participants are selected randomly from the population of study by using the random sampling technique. The population has been demographically divided into three groups’ rural, urban and metropolitan. The research study measured the quality of services in Atlas Battery, selling product with the brand name of AGS by using the SERVQUAL method. Data was collected through questionnaire specifically developed to study the impact of quality of after sales services on customer satisfaction and measured on the 5 point Likert scale by dividing the questionnaire in independent and dependent variables. To collect data for this research the instrument (the different degrees of customer response in questionnaire) has been taken from Sureshchandar, Chandarsekharan and Antharaman (2002).

They used these five degrees to gauge the customer perception about the services provided by their respective banks. They observed the reliance of customer satisfaction on service quality offered by the bank. The item of customer satisfaction has been taken from this work to measure the degree of satisfaction of the customer. The five degrees scale to measure customer satisfaction is: 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree.
3.1. Data Analysis

Independent Variables:
V1: Core service or service product
V2: Human element of service delivery
V3: Systemization of service delivery: Non-human element
V4: Tangibles of service (service escapes)
V5: Social responsibilities

Dependent Variable:
V6: Customer Satisfaction

### Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.928a</td>
<td>.860</td>
<td>.855</td>
<td>.40312</td>
<td>.860</td>
<td>177.342</td>
</tr>
</tbody>
</table>

This table provides us the test criteria about the validity of this fitted model. The tools that have been applied here for this purpose are R-Square and Adjusted R-Square. The R-Square always lies between 0 to +1. The large value i.e., close to the 1 shows the betterment of the model. Durbin Watson always lies between 0 and 4 and Value is close to 2. Adjusted R-Square is modified form of R-Square and gives same information’s as R-Square. Here in this model both results R-Square and Adjusted R-Square are both significantly large and this shows that our constructed model is valid. Table 1 show that the value of Adj-R-Square is sufficiently large and Global test is highly significant that shows the validity of model.

### ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>144.096</td>
<td>5</td>
<td>28.819</td>
<td>177.342</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>23.401</td>
<td>144</td>
<td>.163</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>167.497</td>
<td>149</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Here in this model value of F is 177.342 and P-Value is close to zero, which shows that global test is significant and fitted model is valid. If P-Value ≤ 0.05 model is significant and at P-Value ≤ 0.02 model is highly significant so it is clear that fitted model is highly significant because in above table P-Value = 0.000.

Table 3

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>-1.018</td>
<td>.183</td>
<td>-5.572</td>
</tr>
<tr>
<td>V1</td>
<td>.105</td>
<td>.055</td>
<td>.089</td>
<td>1.893</td>
</tr>
<tr>
<td>V2</td>
<td>.255</td>
<td>.081</td>
<td>.229</td>
<td>3.131</td>
</tr>
<tr>
<td>V3</td>
<td>.364</td>
<td>.082</td>
<td>.255</td>
<td>4.421</td>
</tr>
<tr>
<td>V4</td>
<td>.124</td>
<td>.051</td>
<td>.108</td>
<td>2.432</td>
</tr>
<tr>
<td>V5</td>
<td>.420</td>
<td>.086</td>
<td>.352</td>
<td>4.897</td>
</tr>
</tbody>
</table>

a) Dependent Variable: V6

Here we observed that V5 has maximum contribution in customer satisfaction as compare to the other independent variables. If level of all independent variables is nil (Zero) then the customer satisfaction will be –1.018 which indicate the dissatisfaction. Significance of the partial regression coefficient is at 5%. In above table P-Value of the test statistic (t-test) for constant V2, V3,V4 and V5 is almost zero which shows that these factors perform significantly in the model, where as the performance of V1 (Core Service or Service Product ) is Comparatively poor. If we consider all independent variables in the model then our model is

\[ V = -1.018 + 0.105 V1 + 0.255 V2 + 0.364 V3 + 0.124 V4 + 0.420 V5 \]

4. Results and Discussions

As illustrated in table 3 the results of regression coefficients in our model \( \hat{\beta}_0 = -1.018, \hat{\beta}_1 = 0.105, \hat{\beta}_2 = 0.255, \hat{\beta}_3 = 0.364, \hat{\beta}_4 = 0.124, \hat{\beta}_5 = 0.420 \) are positive and significantly large which means that all independent variables V1,V2,V3,V4 and V5 play significant role in customers satisfaction V6. Here in our model \( \hat{\beta}_1 = 0.105 \) that measures the rate of positive change in customer satisfaction due to improvement of V1 (Core service or service product) similarly \( \hat{\beta}_2, \hat{\beta}_3, \hat{\beta}_4 \) and \( \hat{\beta}_5 \) show the rate of positive
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change in customer satisfaction due to V2, (human element), V3 (Systemization of service) V4 (Tangibles of service) and V5 (social responsibility) respectively.

Results show that all independent variables perform significantly except V1 that is comparatively less significant but has no negative impact on customers’ satisfaction in our model. Different researchers worked on after sales services and its impact on customers’ satisfaction in their researches and our findings are in line with their results. Reimann et al., (2008) in his research on uncertainty avoidance in delivery found the results of coefficient -0.69 that indicates the negative relationship between customer satisfaction and uncertainty avoidance in delivery time it means that delivery time has positive or direct relation with customer satisfaction, in this work coefficient of delivery time is 0.364 and 0.420 related to the human element of service delivery (V2) and social responsibility (V5) respectively both the results are showing that V2 and V5 have direct relation and affect on customers’ satisfaction.

Shaharudin et al. (2009) worked on the affect of delivery time, installation and warranty on customers’ satisfaction and in his research study the results of coefficient of delivery and warranty are 0.355 and 0.392 that shows the direct relation of both independent variables on customer satisfaction. In our model beta value of related independent variable V2 and V3 is also highly significant which is 0.255 and 0.364 respectively that is a clear indication that delivery time and process and commitment and promises of the organization about their product enormous influence on the customers satisfaction. Agyapong (2010) in her research work on the effects of service quality on customers’ satisfaction identified that the impact of competence, tangibility, communication and courtesy are positive. The regression coefficients calculated by her for above independent variables are 0.451, 0.580, 0.207 and 0.188 respectively. All these results are statistically significant and support the results of our model in which independent variables V2, V4, V1, and V5 have regression coefficients 0.255, 0.124, 0.105 and 0.420 and are also statistically significant and have worth to improve the customer satisfaction.

After this cross comparison of the results in same dimension and findings of previous researches on the issue we found that Atlas battery should work more on all independent variables especially on V1 and V4 which represent core services or service product and tangibility for further improvement and meet the expectations of the customers.

Every starting effort always has many limitations and restrictions. However the acknowledgement of these limits always opens the doors for further study in new directions. For this research a single brand has been selected to study the impact of quality of after sales services on customer satisfaction while the future researcher can study the multiple brands to get the response and results from the users in the same segment. The analysis can be used to get results that which variable discriminates well between groups on the basis of the classification of the consumer as user or non-user of
any particular brand out of total number of brands available in the market according to the age, income and experience of use.

Perceived quality of after sales services can be taken as an additional variable. Geographical and cultural difference may produce the different results regarding satisfaction level due to change in requirement, difference of needs and level of perception of the people.

The impact of the five factors have been studied in this research, whereas the further research can be conducted to explore the impact of these five factors on the overall organizations performance measures like profitability. The incorporate structure and frame work of the study can be extended by increasing the number of variables to extract the more powerful and comprehensive results to provide more effective information in multiple dimensions to the management for planning and decisions.

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