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### Prof. Nisar Ahmed Siddiqui

*Sitara-e-Imtiaz*

Vice Chancellor, Sukkur IBA University

## Editorial

*Dear Readers,*

Once again, it's a pleasure to bring you the latest issue of **Sukkur IBA Journal of Management and Business - SIJMB**. Following our editorial policy, this issue contains double blind peer-reviewed articles which address the key business, management and economic issues pertaining to both national and international levels. The continued efforts of our editorial team and reviewers have enabled **SIJMB** to present you the high-quality research work based on the innovation, originality and contemporary issues in the core areas but, not limited to business, management and economics. **SIJMB** follows continuous improvement policy, and I thank all the stakeholders who have been the part of it. Moreover, **SIJMB** has continued its open access policy in order to reach larger audience and wider dissemination of published work.

While not forgetting that the **SIJMB** has an institutional association with **Sukkur IBA University**. In fact, the initiation of **SIJMB** is an outcome of strong research orientation followed by the Sukkur IBA and I am grateful for continuous institutional support in this regard. In addition, the **SIJMB** provides valuable platform for national and international researchers and publishes their research findings and disseminates those to the largest audience. The journal does not charge any fees and provides complimentary copy (in hard form) to each author. In addition, the supplement copies of the journal are also distributed to HEI and R&D institutions of the country. The journal has been archived by world's renowned scientific repositories. Journal has received recognition from several research agencies, universities and renowned professors. With pleasure, it is also to share with you all that the **SIJMB** has recognized by the **Higher Education Commission (HEC)**. In coming years, the journal aims to improve its current state by attracting more national and international researchers in the field of business, management and economics.

On behalf of the **SIJMB**, I welcome submissions for the upcoming issues of the journal and looking forward to receiving your valuable feedback.

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## Measuring Customer's Satisfaction When Dining at a Casual Restaurant: An Application of Kisang's Model

Raheem Bux soomro<sup>1</sup>, Noor Ahmed Brohi<sup>2</sup>, Khair Muhammad Memon<sup>3</sup>, Rehman Gul Gilal<sup>1</sup>

### Abstract

The culinary business is being increased rapidly in Pakistan. Usually, Pakistani consumers prefer to eat meals in homes cooked by female members owing to cultural, social and religious reason. In order to bridge up the gap in existing hospitality literature, the objective of this research manuscript is to find out the relation among the dimensions of quality (food quality, service quality and quality of physical environment), customer satisfaction, restaurant image, behavioral intentions and customer perceived value in casual restaurants in a Sukkur city. Data for this research study have been collected from customers of restaurants located in Sukkur city through convenience sampling with a sampling size of 257. Descriptive statistics were computed by using SPSS (24) and Smart PLS (3.0) version was used to test hypotheses. Service quality dimensions of a casual restaurant were found important determinants of the restaurant image and customer perceived value followed by physical environment and service quality; whereas, the physical environment quality was not found to be a significant factor of perceived value of a customer. Additionally, food quality is measured as an important restaurant's product. Another outcome of the present study exhibited that quality of physical environment holds a substantial positive effect on a restaurant image. The findings indicate quality in food and service is highly important to satisfy customers and make their behavior positive about casual restaurant. Further, as an average temperature remains above 400 in Sukkur city, internal environment of the restaurant is significant as it will affect the mood and perception of customers when they dine in the casual restaurant.

**Keywords:** *Restaurant Image, Customer Satisfaction, Smart PLS, Behavioral Intentions and Customer Perceived Value Service Quality, SPSS, Customer Satisfaction.*

**JEL Classification:** M31

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## **1. Introduction**

The culinary business is being increased rapidly in Pakistan. In the business of culinary, there are several types of restaurants like cafes, fast food restaurants, casual restaurants and various types of foreign franchises. The restaurant business has been present in Pakistan since its independence in 1947. Owing to the increasing population of Pakistan (207.77 million), culinary business became a highly profitable business. The growth of service industry is contributing an essential part in economies of countries (Cronin and Taylor, 1992; Bateson, 1992). Further, the service sector contributes around 70% in GDP of developed countries, whereas it shares around 60% in Pakistani GDP and it also shares 37.6% in employment (Pakistan Economic Survey 2017-18-19). According to a Labour Force Survey (2010-11), the restaurant industry is providing employment to 1.31% in Pakistan. At an average, every household spent 1.14% from its total food expense on hotel and restaurants in Pakistan (Household Integrated Economic Survey 2010-11). Usually, Pakistani consumers prefer to eat meals in homes cooked by female members owing to cultural, social and religious reason. However, owing to structural change in consumption shape of food and growing inclination towards eating pattern and eating out has become a fundamental piece of bustling life and a fashion proclamation for rejoicing unique occasions and appreciate the flavor of cultural flavors (Goyal & Singh, 2007; Ahedo et al., 2007; Kivela, 2006). Individuals from various cultures, ethnic groups and economic backgrounds are generally customers for restaurants and a majority of them definitely possess differing preferences (Akinyele, 2010). Therefore, due to diverse features of customers, they are inclined to apply multiple standards in restaurant selection (Chung & Kim, 2011). Numerous marketing practitioners and scholars have put an important attention on satisfaction of a customer and considered it as a critical indicator of the historical, current, and future achievements of a brand (Oliver, 1999). Other research scholars (Dube et al., 1994) also defined that the satisfaction of a customer is a sign that the customer will come again to a restaurant. Further studies (Suhartanto, Chen, Mohi, & Sosianika, 2018; Kim et al., 2009) uncover that faithful clients will in general buy more than recently obtained clients, follow through on premium costs, allude new clients to the firm, and reduce working expenses. Owing to strongly aggressive market, it is commonly accepted that the key to picking up a bit of advantage lies in bringing high quality services that will, thus, drive to fulfilled clients (Ahn & Han, 2007). Precisely, in the business of a restaurant, clients for the most part consider food quality, quality of physical condition, and staff services as significant segments of a restaurant in assessing its service quality (Ryu & Han, 2010; Chow Hau-siu et al., 2007 and Young and Soo Cheong, 2008).

Various interconnected elements have impact on decision of food like social, monetary, environmental and political elements (Señoran, Ibáñez, and Cifuentes, 2003). Basic socio-statistic variables reported are: education, age, salary, work status, family size, and urbanization (Marsh et al., 2003; Byrne, Capps, and Saha, 1996). A more profound understanding of shoppers' decision criteria will give restaurateurs important data and experiences which empower them to attract and hold more buyers (Young and Soo Cheong, 2007). Therefore, a manager of a restaurant has to ponder on the major

determinants which influence a restaurant choice of customers. In this regard, it has to be empirically tested that either customers are being driven because of the quality of food, atmosphere or employee services or not. In a focused market, be that as it may, each assistance association must comprehend the idea of service quality from the perspective of the client, not the supplier (Jha, 2008; Grewal & Levy, 2018). Thus, a significant target of this research study is to investigate these determinants by constructing a combined model which can test the impact of service quality elements (quality of food, service and physical condition) of a restaurant on the image of a casual restaurant, perceived value of a customer, customer satisfaction, and behavioural intentions in the Sukkur city. (Mhlanga, 2018) was of the opinion that a superior comprehension of the elements affecting restaurant service quality will give significant pragmatic ramifications to restaurant clients. Data for this research study have been collected from customers of restaurants located in Sukkur city. Being a third largest city of Sindh province, it enjoys the strategic location at the intersection of Baluchistan and Punjab and is an old traditional, historical, and business center (Wikipedia.com/sukkur). Sukkur is multiethnic, multicultural and the 14th most populous (2, 31, 589 inhabitants) city of Pakistan. There are lots of popular restaurants in Sukkur like fast food, burger, pizza, buffet, grill and BBQ restaurants which are best known for their services, seating capacity, hygienic atmosphere.

Nucleus intention of this research attempt is to improve a theoretical model which can test the impacts of elements of service quality of a restaurant on the image of a casual restaurant, customer satisfaction, perceived value of a customer, and behavioural intentions in Sukkur city. This study delivers a more complete view to comprehend the part of attributes (food and service quality, physical environment) of the restaurant's service quality and image of restaurant on consumer behavior in order to know complete assessment of casual restaurant experience. This research describes that the quality of food exercises the greatest contribution to the restaurant image towards the casual restaurant in the Sukkur city. Present study finds some resemblances to earlier research studies (Ryu et al., 2010; Chow et al., 2007), but it is also very imperative to note that either no any study or very limited studies have been undertaken to examine the relations among the dimensions of quality (service, food and physical environment), an image of restaurant, perceived value a customer, satisfaction of customer and behavioral intentions in casual dining restaurant in Sukkur city. The next section encompasses a review of literature, research methodology and results analysis. In the final section, the discussion of results, conclusion and implications have been presented.

## **2. Literature Review and Hypotheses Development**

With regard to restaurant-specific determinants, a study of Ryu & Han (2010) inspected the relations among factors of quality elements (quality of service, food and physical condition), satisfaction of the consumer, price and behavioural intention of visitors in quick-casual restaurants. Together with above, Young and Soo Cheong (2008) conducted an examination to distinguish the main quality characteristics that fundamentally recognize exceptionally fulfilled diners from non-exceedingly fulfilled

eaters utilizing the context of middle level to upper level restaurants and they employed triple quality variables (service, food and atmosphere) to evaluate diners' perceived quality in connection to restaurant.. In the same manner, this study has also tried to know the impact of features of quality on the customer's satisfaction in a restaurant industry.

### **Relation among Food Quality, Physical Environment Quality, Service Quality and Restaurant Image.**

Kotler and Keller (2012) proposed the thought of the image as follows: A set of beliefs is an image, thoughts, and impressions that an individual hold with respect to an object. Further, Kennedy (1977) said that image comprises of two noteworthy components: first one is functional, which is effectively estimated and is identified with physical components of a product/service; and second one is emotional, which is non-physical, hard to gauge and is showed on a psychological level with the help of attitude and feelings. Therefore, customers create an image of a product or service by considering tangible and intangible factors when choosing a restaurant. Research demonstrates that the service quality, food and physical condition are the characteristics that have huge ramifications on an image of restaurant (Jin Naehyun et al., 2012). A consumer's impression of an image of restaurant is probably to sufficiently reflect the overall consumption experiences (such as food, service and atmospherics) of a customer. Food signifies the most important element that will be considered by customers when assessing any particular restaurant. In food services area, numerous scientists underlined that social aims are influenced by consumer loyalty and they have a solid affiliation (Ryu & Han, 2010; Lee et al., 2018; Ryu et al., 2012). Surely, in an examination that inspected the significance of seven diverse restaurant traits (menu variation, food quality, food-quality consistency, attentiveness of a server, waiting time, atmosphere and server helpfulness), among them food quality unmistakably rose as the most significant (Dube et al., 1994). Another study (Kauppinen-Räsänen et al., 2013) recommended that remembered experiences of eating were categorized by the food itself, along with various other factors including self, place, timing and context. Food quality encompasses numerous complex features such as physical, compositional and microbial features, alterations convinced by technological procedures or storage, safety and healthful value (Trimigno et al., 2015). But, Horng et al., (2013) were of the opinion that food quality alone cannot satisfy customers. In this connection, Ryu and Han (2011) suggested that facilities like aesthetic layout, lighting, atmosphere, table setting and the service staff are some essential components of the physical environment.

As a key achievement in numerous restaurant businesses, developing a wonderful and imaginative physical environment was correctly fundamental beside food and service quality viewpoints. Managers of restaurants ought to contribute considerably in decorations, floor neatness, interior designs and other different fixtures to enhance physical conditions because such expenses are the most significant ventures for enticing clients (Azim et al., 2014). To put it another way, Baker et al. (1994) said that service firm's physical conditions play a key role in augmenting a brand image and stimulating

buying behaviour. Restaurant atmospheric examinations recognize tidiness as a training to accomplish and keep up a climate that is liberated from perilous or destructive substances (for example neatness of dining area, bathrooms) (Ryu and Jang, 2007; Hussein, 2018). Palit, Kristanti, and Wibowo (2019) stated that the ergonomic angles, for example, visual showcase, anthropometric, and ecological ergonomics have impact on clients' comfort at restaurants.

The service quality of a restaurant is a vital determinant of a consumer's consumption experience, which makes a restaurant different from others. Czepiel (1990) characterized service quality as observation of customers of how well a service fulfills or surpasses expectations of customers. In establishing a satisfying relation with customers, service quality is a critical requisite and determinant of competitiveness for a restaurant. In the restaurant business, quality of service is gotten from assessment of clients of restaurant service quality after making comparison between their expectation and actual experience while visiting restaurants (Chow et al., 2007). A research was directed by Harrington et al., (2011) where they admitted a young diner section (from 16 years to 34 years of age) to ponder service quality of the restaurant as one of the key five characteristics that bring equally negative and positive experiences of young diners with a restaurant. Hence, it seems practical to suppose that a view of service quality of the restaurant straightforwardly effects the impression of a restaurant's appearance. According to Ryu Kisang et al., (2008), quality in service, food, interior design and decoration, waiting time and location of the restaurant are important drivers of a brand appearance of a restaurant. At this juncture, when those drivers don't convey predictable messages to visitors of the restaurant, then the restaurant's picture is harmed, and the position of a restaurant is puzzling to clients. Along these lines, food and service quality are basic forerunner in keeping up an image of the restaurant. In light of the discourse above, it is valid to set the below-mentioned three hypotheses:

**H1a:** The FQ impacts restaurant image positively and significantly.

**H1b:** The QPE impacts restaurant image positively and significantly.

**H1c:** The SQ impacts restaurant image positively and significantly.

### **Relation among Service Quality, Food Quality, Quality of Physical Environment and Perceived Value of Customer**

Customers are becoming highly concerned for the role of value because it is a standout amongst the most influential force in the present marketplace (Albrecht, 1992). Zeithaml (1988) explained that a perceived value of a customer as the own assessment between perceived general advantages and perceived cost or sacrifices borne by the customer. Value is being depicted as the client's general examination of the service net worth relies on advantages and costs in getting and using services (Zeithaml, 1988; Hellier Phillip, 2003). Further, as Kotler (2012) stated that a perceived value of a customer is the variance between total client value and total client cost. In addition, he also stated that a basic objective of marketing is to generate a better value for a customer in comparison to the value created by competitors (Kotler, 2012). In the same fashion, McDougall & Levesque (2000) explained that a value is the change between advantages

acquired and costs paid. Existing literature portrays that quality of product and quality of service assist as the predictors of customer's perceived value (Zeithaml, 1988; Chen & Hu, 2010; Lai et al., 2009; Bolton & Drew, 1991). Likewise, Eggert and Ulaga (2002) demonstrated a positive association between features of service quality (tangibility, reliability, empathy & responsiveness) and perceived value of a customer. Physical conditions (like décor, ambient condition & ease of seats) delivers the first-time visitors/customers with an indication that it provides the expected service offering's nature and perceived value of a customer (Nguyen Nha & Leblanc Gaston, 2002). In the same way, a positive association was also confirmed between the features of physical environment (such as décor and artifacts, ambient conditions and spatial layout) of a restaurant and perception of perceived value of a customer (Heesup and Kisang, 2009). With regard to Chinese restaurants, Liu and Jang (2009b) studied a relation among the perceived value of a customer, emotional responses, dining atmospherics, and behavioural intentions and their results found that dining atmospheric had a substantial impact on the perceived value of customers. By considering the above literature, a positive relation has been hypothesized between a restaurant's service quality components and customer perceived value. By considering above literature, following three hypotheses have been framed:

**H2a:** The FQ impacts perceived value of customers positively and significantly.

**H2b:** The QPE impacts perceived value of customers positively and significantly.

**H2c:** The QS impacts perceived value of customers positively and significantly.

### **Relation among Restaurant Image, Customer Service and Perceived Value of Customer**

Prior research attempts declare that an image of store/brand keeps perceived value of a customer under a substantial impact, intention to visit again and their satisfaction (Bloemer & Reyter, 1998; Lai Fujun et al., 2009; Tor Wallin and Bodil, 1998; Ryu Kisang et al., 2008; Cretu and Brodie, 2007; Paul & Richard, 1997). In this manner, dealing with a steady and different restaurant image is an imperative promoting procedure segment for restaurant supervisors, which thus impacts perceived value of a customer and their satisfaction. Assessing the part of perceived value of a customer in describing consumer behaviour in the context of service, Paul & Richard (1997) concluded that a perceived value of a customer was a positive and direct antecedent of satisfaction of a customer. A relationship was analyzed by Ryu Kisang et al., (2008) among a general image of quick-casual restaurant, satisfaction of a customer, perceived value of a customer, and behavioural motives in quick-casual restaurants and they concluded that the image of general quick-casual restaurants was a substantial factor of satisfaction of a customer and perceived value of a customer. Other researchers (Lai Fujun et al., 2009) uncovered that the corporate image impacted perceived value of customer and their satisfaction were substantial indicators of loyalty and they additionally pointed out that client saw customer's perceived value and customer satisfaction intervened the effect of both corporate image and service quality on

devotedness of customer. In entirety, clients who possess ideal restaurant picture are probably going to trust its offers and great client saw esteem and high consumer loyalty. Accordingly, the following hypotheses have been made:

**H3:** Restaurant Image (RI) impacts perceived value of customer positively and significantly.

**H4:** Restaurant Image (RI) impacts customer satisfaction positively and significantly.

### **Relation between Perceived Value of Customer and Customer Service**

Alongside nourishment, services, and physical condition, past examinations have additionally viewed as seen an incentive as one of the significant elements that influences consumer loyalty and conduct aims (Lee, Jin, & Kim, 2018). Kotler and Keller (2012) defined perceived value of customer as the variance between evaluation by a customer of total benefits against total costs of an offering and alternatives perceived by the customer. In like manner, they (Kotler & Keller, 2012) extended the concept by explaining perceived value of customer as the share between overall customers costs (time, monetary, energy and psychic costs) and overall value for customer (a package of functional, economic and psychological benefits including services, image value, products, personnel). Angelova (2011) defined customer satisfaction as a measure of whether organization possesses an ability not only to fulfill the needs of customers but also surpass expectations of a customer with the help of service or product. Present research studies approve that perceived value of a customer has been recognized as a trustworthy interpreter of a consumer buying behavioural intentions and customer satisfaction (Tor & Bodil, 1998; Chiou, 2004; Gordon and Terrence, 2000; Ryu Kisang et al., 2008 and 2010; Paul and Richard, 1997). Tor Wallin and Bodil (1998) found an affirmative relation between a customer's perceived value and satisfaction of a customer in the service industries. In the same fashion, Paul and Richard (1997) also established that there is a direct and positive connection between customer's perceived value and satisfaction of a customer. Other authors (McDougall & Levesque, 2000) mentioned that perceived quality of service alongside perceived value clients were two exceptional antecedents of satisfaction of customer in service industries like hairstylist, dental, auto and restaurant service. Above review of literature guides author to form the following hypothesis:

**H5:** Customer Perceived Value (CPV) impacts customer satisfaction positively and significantly.

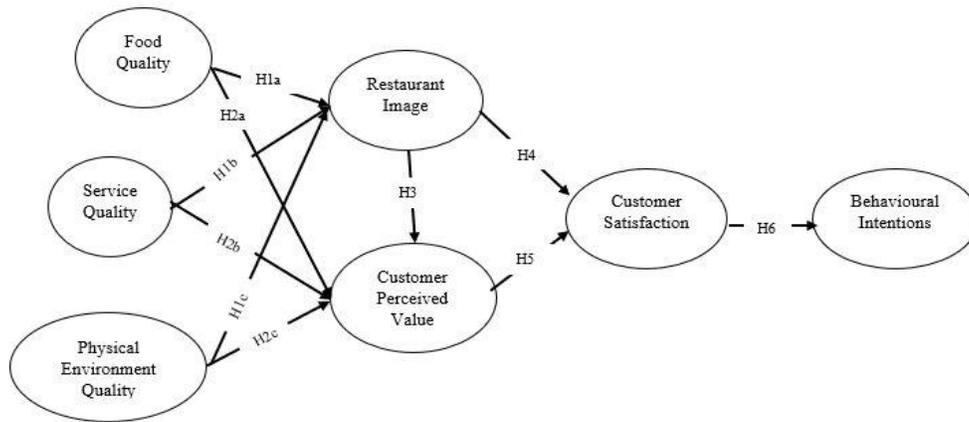
### **Relation between Customer Service and Behavioral Intention**

Consumer satisfaction in restaurant industry assuming a vital job since usually utilized as a marker for foreseeing regardless of whether clients will return to the restaurant. These behavioral intentions are either positive or ominous. Ladhari (2009) explained that intentions encompass more spending with a service supplier, remaining loyal, affirmative oral message, and paying a premium price while adversarial intentions comprised of an adverse word of mouth, customer defection, lesser expending and/or going to court against the company. Several research studies approve the positive and direct relation between behavioral intentions and satisfaction of a customer, such as

rebuying and positive oral communication (Oliver, 1999; Kivela Jakša et al., 1999; Kim et al., 2009; Heesup and Kisang, 2009; Ryu & Han, 2011; Young and Soo Cheong, 2007; Ryu Kisang et al., 2010). Kivela Woo et al., (1999) claimed that dining satisfaction vitally impacted post-dining behavioural intentions. Physical environment including ambient conditions, décor and artifacts, and spatial layout significantly impact price perception of customers and level of satisfaction of a customer, which thus turn directly/indirectly impacted loyalty of a customer like positive oral words and intentions to visit again (Heesup and Kisang, 2009). As the nature of loyalty is multi-dimensional, such behavioral intentions are also explained as loyalty intentions by some other researchers (Heesup Han and Wansoo, 2009). All these discoveries help the huge connection between customer satisfaction and behavioural intention in the restaurant business. By following the above discoveries, the accompanying hypothesis is figured: **H06:** Customer Satisfaction impacts behavioural intentions positively and significantly.

### 3. Conceptual Framework of this Study

The conceptual framework shown in Fig. 1 below was created to understand links among the attributes of dining experience, which includes quality of food, quality service and physical environment have a positive impact on customers' satisfaction. Figure 1 shows framework of this research attempt theoretically. The dining experience attributes include service quality, food quality and physical environment consider positively associated to customers' satisfaction and restaurant image. Equally, high level satisfaction of customer will lead him/her in showing behavioral intention in future like revisit, convey the positive words and advocate the restaurant to more people.



**Figure1:** Conceptual Framework (Source: Kisang et al., 2012, p. 207)

## 4. Methodology

### Sampling and Data Collection

This research study has been designed to investigate features impacting dining out in casual restaurants among consumers in Sukkur, a city of Pakistan. For this purpose, a survey questionnaire was adopted to gather data from customers/visitors of local casual dining restaurants in a Sukkur city. According to Province Wise Provisional Results of Census (2017), total population of Sukkur city is 551,357. By referring a table developed by Krejcie and Morgan (1970), when the population of certain respondents surpassed 75000, the sample size of 390 can be considered satisfactory. The size of sample was additionally checked dependent on the proposal and rules recommended (Hair, Risher, Sarstedt, & Ringle, 2018). Total 390 questionnaires were circulated among the respondents by using a convenience sampling technique because of heterogeneity of respondents and limitations of time and cost. In most cases, convenience sampling has been employed on diverse sorts of restaurants/hotels owing to sampling limitation (Back, 2005; Line and Runyan, 2012). In order to collect data, restaurants located in Sukkur city were visited for on weekends for several months. Waiters were requested to provide questionnaires to a client who was given a bill. The researcher clarified the reason of the survey to clients and also indicated that their contribution was voluntary and requested guests to complete the questionnaire. Finished questionnaires were gathered by the researcher when clients paid their bills.

### Research Instrument

To confirm the validity of the research instrument, previous studies were followed to adopt all the measurement items and some little modifications were incorporated in the instrument to fulfill the needs of respondents for this study. The quality of physical environment was judged by employing four items borrowed from Kisang and Soocheong (2007 and 2008) and Young and Soo Cheong (2009). Further, six food quality items were adopted from Young and Soo Cheong (2007) and Young and Soo Cheong (2009). Three items were utilized to measure service quality (Michael and Joseph, 2001; Young and Soo Cheong, 2009). Three items were employed to measure customer satisfaction (Kisang and Soocheong, 2008; Oliver, 1997). We used four items to measure the restaurant image (RI) which were taken from Kim and Kim (2004) and Low and Lamb (2000). Customer perceived value (VAL) was assessed by utilizing three items developed by Ryu et al., (2008) and Sweeney and Soutar (2001). Lastly, behavioral intentions (BI) were assessed by utilizing six items (Zeithaml et al., 1996). Reliability coefficients of all scales have been shown in a Table 01. We used a five-point Likert scale (strongly disagree (1) to strongly agree (5)) was utilized in this study. The items of the questionnaire were put into English language, on the grounds that most of restaurant clients were relied upon to be very familiar with English. Struwig and Stead (2001) explained that a survey ought to be expressed in the language that the respondents will effectively comprehend and should be exact to keep up interest and to

guarantee unwavering quality of the responses. Last, some other demographic variables were also assessed.

**Table 1:** Reliability Coefficients.

| Dimension                       | No. of Items | Cronbach's Alpha Score |
|---------------------------------|--------------|------------------------|
| Quality of Physical Environment | 04           | .800                   |
| Food Quality                    | 06           | .932                   |
| Service Quality                 | 05           | .798                   |
| Customer Satisfaction           | 03           | .742                   |
| Behavioral Intentions           | 06           | .798                   |
| Customer Perceived Value        | 03           | .842                   |
| Restaurant Image                | 04           | .851                   |
| Overall Reliability             | 31           | .926                   |

### Data Analysis Method

This research study adhered two-step method developed by Anderson and Gerbing (1988). In a first step, a measurement model was checked while in a second step, structural model was made engaged to test the hypotheses in this study by utilizing Smart PLS (V. 03). We picked PLS-SEM as a diagnostic tool in the light of the fact that the point of this examination is to predict the connections among different latent variables, as opposed to affirm a specific theory (Sosik, Kahai, & Piovosio, 2009; Hair, Hult, Ringle, & Sarstedt, 2017). PLS-SEM is more powerful statistical tool than CB-SEM (Reinartz, Haenlein, & Henseler, 2009; Hair, Ringle, & Sarstedt, 2011).

**Table 2:** Sample profile of respondents

| Profile          | Frequency | Total | %    |
|------------------|-----------|-------|------|
| <b>Gender</b>    |           |       |      |
| Male             | 189       | 257   | 73.5 |
| Female           | 68        |       | 26.5 |
| <b>Age</b>       |           |       |      |
| 11-20            | 33        | 257   | 12.8 |
| 21-30            | 40        |       | 15.6 |
| 31-40            | 82        |       | 31.9 |
| 41-50            | 45        |       | 17.5 |
| 51-60            | 37        |       | 14.4 |
| 61 and above     | 20        |       | 7.8  |
| <b>Education</b> |           |       |      |
| Matriculation    | 26        | 257   | 10.1 |
| Intermediate     | 42        |       | 16.3 |
| Graduation       | 106       |       | 41.2 |
| Post-Graduation  | 64        |       | 24.9 |
| MS/PhD           | 19        |       | 7.4  |

## 5. Results

### Sample Characteristics

Total 390 sets of questionnaires were distributed personally among the respondents who were available at a particular time in popular restaurants located in Sukkur city and only 297 were returned and final number of respondents was 257. Table 02 presents a summary of the respondents' gender, marital status, age and other factors used in this research study.

**Table 3:** Loadings and AVE and CR

| Constructs                      | Factor Loadings | AVE   | CR    | $\alpha$ |
|---------------------------------|-----------------|-------|-------|----------|
| Food Quality                    | 0.737           | 0.839 | 0.886 | 0.610    |
|                                 | 0.886           |       |       |          |
|                                 | 0.718           |       |       |          |
|                                 | 0.732           |       |       |          |
|                                 | 0.821           |       |       |          |
| Service Quality                 | 0.778           | 0.777 | 0.855 | 0.596    |
|                                 | 0.757           |       |       |          |
|                                 | 0.760           |       |       |          |
|                                 | 0.792           |       |       |          |
| Quality of Physical Environment | 0.828           | 0.797 | 0.866 | 0.618    |
|                                 | 0.786           |       |       |          |
|                                 | 0.713           |       |       |          |
|                                 | 0.813           |       |       |          |
| Restaurant Image                | 0.775           | 0.769 | 0.850 | 0.588    |
|                                 | 0.819           |       |       |          |
|                                 | 0.730           |       |       |          |
|                                 | 0.738           |       |       |          |
| Customer Perceived Value        | 0.794           | 0.759 | 0.861 | 0.674    |
|                                 | 0.833           |       |       |          |
|                                 | 0.835           |       |       |          |
| Customer Satisfaction           | 0.855           | 0.736 | 0.850 | 0.654    |
|                                 | 0.842           |       |       |          |
|                                 | 0.723           |       |       |          |
| Behavioral Intentions           | 0.738           | 0.825 | 0.877 | 0.589    |
|                                 | 0.744           |       |       |          |
|                                 | 0.837           |       |       |          |
|                                 | 0.743           |       |       |          |
|                                 | 0.770           |       |       |          |

**Assessment of Measurement Model**

Partial Least Squares (V. 3) as an analytical tool was employed to analyze data for testing hypotheses (Ringle, Wende, & Will, 2005). Ali, Rasoolimanesh, and Cobanoglu (2018) underlined that PLS-SEM is one of the most rising and promising methods that is useful for path modeling and prediction. In addition, Ali, Rasoolimanesh, Sarstedt, Ringle, and Ryu (2018) affirm that “hospitality researchers appear to be ignorant of the ongoing augmentations of the PLSSEM method, which unmistakably broaden the scope of the analyses and help picking up more insights from the model and the data. Additionally, in order to find out the level of significance for loadings and path coefficients, a bootstrapping method of 300 resamples was used (Chin, 1998). Various criteria were applied like internal consistency (CR), reliability of indicators (Cronbach alpha), convergent validity (AVE) and discriminant validity, for evaluation of the measurement model. In order to retain an item in the measurement model, it must have significant loadings. According to Bagozzi & Yi, (1988), to attain convergent validity (CV), the level of loadings must be higher than 0.5, values of composite reliability (CR) must be higher than 0.7 (Gefen et al., 2000), and the average variance extracted (AVE) must be more prominent than 0.5 (Fornell & Lacker, 1981). The measures portrayed in a Table 03, obtain adequate convergent validity (CV) and reliability and while, in the Table 03 results of discriminant validity. For achieving discriminant validity, “the average variance shared between each construct and its measures should be greater than the variance shared between the construct and other constructs (Fornell & Cha, 1994; Fornell & Lacker, 1981)”. Therefore, the measures in Table 04 keep adequate discriminant validity for the reason that the value of correlation for each construct (in both column and row) is lesser than the AVE by the indicators assessing that construct which is shown on the diagonal.

**Table 4:** Discriminant Validity of Constructs (Fornell-Larcker) Criterion)

|     | BI    | CS    | FQ    | QPE   | RI    | SQ    | VAL   |
|-----|-------|-------|-------|-------|-------|-------|-------|
| BI  | 0.767 |       |       |       |       |       |       |
| CS  | 0.560 | 0.809 |       |       |       |       |       |
| FQ  | 0.409 | 0.426 | 0.781 |       |       |       |       |
| QPE | 0.442 | 0.485 | 0.368 | 0.786 |       |       |       |
| RI  | 0.473 | 0.492 | 0.220 | 0.294 | 0.767 |       |       |
| SQ  | 0.613 | 0.589 | 0.533 | 0.523 | 0.461 | 0.772 |       |
| VAL | 0.467 | 0.512 | 0.390 | 0.356 | 0.363 | 0.497 | 0.821 |

Notes: BI= Behavioral, CS= CS ¼ Customer Satisfaction, FQ= Food quality, QPE= Quality of physical environment, RI= Restaurant Image, SQ= Service quality and VAL= Customer Perceived Value

### Structural Model Assessment

Structural or an inner model was assessed after assessing the reliability and validity of variables in a structural model and their results have been shown in Figure 2. The first section discusses the direct effects between variables. Later section discusses the mediating effect between independent variables and dependent variables.

### Assessment of Direct Relationships

The first hypothesis examines that QPE, FQ and SQ have a positive and significant impact on RI. In this connection, QPE ( $\beta = 0.107$ ,  $p < 0.05$ ) holds a positive and significant relation with RI, FQ ( $\beta = -0.552$ ,  $p < 0.05$ ) has a positive and significant relation with RI. While, SQ ( $\beta = 0.182$ ,  $p < 0.05$ ) is also strongly and positively associated with a restaurant image. Therefore, H1 and H2 and H3 found supported. In particular, FQ exerted the greatest influence on RI.

The second hypothesis examines that QPE, FQ and SQ have a positive and significant impact on VAL. In this connection, QPE ( $\beta = 0.059$ ,  $p > 0.05$ ) holds a negative and insignificant relation with VAL, FQ ( $\beta = .257$ ,  $p < 0.05$ ) has a positive and significant relation with VAL while, SQ ( $\beta = 0.105$ ,  $p < 0.05$ ) is strongly and positively associated with VAL. Therefore, H1 has not been supported, and H2 and H3 found supported. Again, FQ has exerted the greatest influence on VAL.

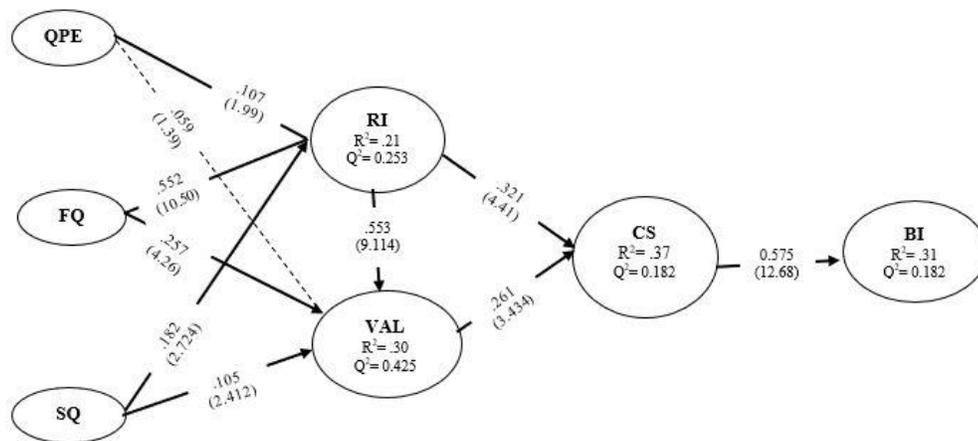


Figure 2: Results of the proposed model.

Significant  $\longrightarrow$   
Non-Significant  $\dashrightarrow$

Notes: t-values are in parentheses; Standardized path coefficients\*;  $\chi = 987.142$

QPE= quality of physical environment; FQ= food quality; SQ= service quality; RI= restaurant image; VAL= customer perceived value; CS= customer services; BI= behavioral intention.

The third and fourth hypotheses examine that RI has a positive and significant impact on VAL and CS. In this connection, RI ( $\beta = 0.553$ ,  $p < 0.05$ ) holds a positive and significant relation with VAL and RI ( $\beta = 0.321$ ,  $p < 0.05$ ) is strongly and positively associated with CS. Therefore, H3 and H4 have been found supported. The fifth hypothesis was set to examine that VAL has a positive and significant impact on CS. The result shows that ( $\beta = 0.261$ ,  $p < 0.05$ ) that there is a positive and significant relation between VAL and CS and hence, H5 has been found supported here. Lastly, hypothesis number fifth was tested which examines the positive and significant relation between CS and BI. The relation between CS and BI in this hypothesis ( $\beta = 0.575$ ,  $p < 0.05$ ) was also found supported.

The coefficient of determination (R<sup>2</sup>) is mostly used in assessing the structural model's accuracy and predictive capacity (Hair et al., 2014). All values of R<sup>2</sup> in this study are bigger than 0.33, which suggest moderate explanatory power (Hair, Ringle, & Sarsedt, 2011; Henseler, Ringle, & Sinkovics, 2009). Additionally, the Q<sup>2</sup> values are 0.253, 0.425, 0.182 and 0.182. The model accomplishes predictive relevance, because all values of the Q<sup>2</sup> are higher than zero (Fornell & Cha, 1994; Hair et al., 2014).

## 6. Discussion

In order to bridge up the gap in existing hospitality literature, the essential target of this study is to find out the relation among dimensions of quality (food quality, service quality and quality of physical environment), restaurant image, customer satisfaction, behavioral intentions and customer perceived value in casual restaurants in Sukkur city. In accordance with the results shown in above Figure 03, service quality dimensions of causal restaurant were found important determinants of the restaurant image and customer perceived value followed by physical environment and service quality; whereas, the physical environment quality was not found to be a significant factor of perceived value of customer. This outcome is in consistent with result of Kisang et al., (2012), where, they concluded that physical environment has a positive but insignificant effect on customer perceived value. Food quality was reported the most important determinant among all determinates. Additionally, food quality is measured as an important restaurant's product (Canny, 2014). In the same way, previous research studies also provided support to confirm that quality of food is one of the chief determinants of customer satisfaction (Nasir et al., 2014; Al-Tit, 2015).

This finding does not contradict with research results of Kisang et al., (2012) where they concluded that food quality has a positive and significant impact on perceived value of customer. Owing to this, it has become imperative for restaurant managers that they should focus on food quality along with adequate temperature, proper variety, freshness, taste, and nice-looking presentation in order to get customers satisfied and to ensure their re-visit on long term basis. Another outcome of the present study exhibited that quality of physical environment holds a substantial positive influence on restaurant image. Physical environment was also found a main determinant of brand's preference (Haider et al., 2010). Therefore, it means that customers who possess favorable image/perception for a physical environment of restaurant are more probably have a

higher level of satisfaction. Some scholars (Yang and Chan, 2010; Ali et al., 2013) explained that physical environment is an important indication that customers prefer to apply to assess the value they obtain from offerings of restaurant. Hence, restaurant's administrators should regularly design, build, improve, and watch physical conditions to make dissimilar images about their restaurants/eateries.

Further, perceived value of customer influences customer satisfaction positively and significantly. Last, the influence of customer satisfaction on behavioral intentions was found positive and significant. This study's results are also in line with results of studies done by Vessel and Zabkar (2009), Kim and Li (2011), Kitabsi et al., (2013), Fazelzadeh and Khoshmaram (2011), Suhaimi (2011) and Ranjbarian et al., (2013).

### **Theoretical Implications**

The present study contributes some significant theoretical implications in the domain of hospitality literature. Though, present study finds some resemblances with earlier research studies (Ryu et al., 2010; Chow et al., 2007), but it is also very imperative to note that either no any study or very limited studies have been undertaken to examine the relations among the dimensions of quality (service, food and physical environment), an image of restaurant, perceived value a customer, satisfaction of customer and behavioral intentions in casual dining restaurant in Sukkur city. Another contribution is that, this study delivers a more complete view to comprehend the part of attributes (food and service quality, physical environment) of the restaurant's service quality and image of restaurant on consumer behavior in order to know complete assessment of casual restaurant experience.

### **Managerial Implications**

This research describes that the quality of food exercises the greatest contribution to the restaurant image towards the casual restaurant in the Sukkur city. In the restaurant industry, commonly customers look for good food as a significant factor behind customer satisfaction as well as repeat patronage decisions (Young and Soo Cheong, 2007; Sulek and Hensley, 2004). Therefore, it is vital for casual restaurants to ensure the supply of efficient ingredients for attaining the superior quality and fresh ingredients from trustworthy suppliers. Additionally, there should be proper monitoring of kitchens from time to time to ensure quality of foods to satisfy customers. Healthy food has been always a strong indicator of food quality (Lee et al., 2018). Present study portrays that quality of food is a significant determinant that influences the image of restaurant but it is not the only determinant which affect the quality of food. The findings show that the image of restaurant can also be affected by a pleasant physical environment. Due to extreme weather during a summer (an average temperature remains above 400) in Sukkur city, internal settings of a restaurant are significant because they influence the mood and customer's perception of when they dine in said restaurants. Further, restaurant managers should also consider arranging, assembling, changing, and controlling the physical structure of their restaurants to establish a competitive advantage which differentiates them from their competitors.

## 7. Limitations and Future Research

One ought to be mindful in understanding the outcomes of this examination study inferable from a few constraints. First, this study suffers from locations of restaurants. Since the customers of popular casual dining restaurants located in the Sukkur city were contacted for data collection for this study. Thus, further studies can also collect data from other cities of Sindh province. Second, a convenience sampling technique was utilized in collecting data for this study; therefore, the results of this research study can be only generalized in well-known casual dining restaurants in Sukkur city. Further, research studies in future are expected to examine the influences of three dining experiences aspect on customer satisfaction and behavioral intentions in other sorts of restaurants, such as ethnic restaurants, fast-food restaurants, family restaurants, quick service restaurants, and other dining restaurants. Third, some other components of dining experience (like, price fairness and fairness of wait) may also be included in the proposed model to find relations among them. Fourth, it would be interesting to examine the moderation of gender and age to find out whether customer satisfaction in dining restaurant differ from male versus female and older versus young customers. Last, in further research studies, personal characteristics (first timers, repeaters and others) or situational may be incorporated as moderators into the conceptual framework to extend our findings.

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## Adoption of Reverse Logistics in Food Companies: A Case of Pakistan

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### Abstract:

This research highlights the importance of Reverse Logistics in Food Companies and explains its implementation level in food companies of Pakistan. Reverse Logistics is the process by which products are brought back to the producer due to some problem in the products. This study describes how food companies are dealing with returned items, their packaging material waste and the food and packaging material waste created at the consumers' end. The other significant aspect of this research is the exploration of hindrances due to which companies do not perform the activities of RL especially in food companies. This study has focused on two local food companies operating in Lahore, mainly dealing in confectionary items such as breads, patties etc., sweet meats, soft drinks and milk. The research has employed Semi structured interviews as a tool to gather data which is then analyzed using NVIVO software. The results have shown that both of the companies have implemented different aspects of Reverse Logistics and the problems they face while developing a Reverse Logistics process are more or less the same. This study would be forerunner in highlighting the current status and the problems faced by the companies.

**Keywords:** Reverse logistics, Pakistan Food companies, food waste, food recycling.

**JEL Classification:** M3

### 1. Introduction

In this competing world, every company is striving to get ahead of each other. The everyday technological advancements and the ever-increasing pressure for providing the best product has compelled companies to develop innovative ways to achieve that next level position. One of the most effective ways of doing this is to explore innovative options for handling waste materials. Reverse Logistics is gaining importance as a vital instrument for gaining economic advantages and a better social image because a proficient reverse logistics process can result in a competitive advantage (Liobikiene and Dagiliute 2016; Markaki et al. 2017). Reverse Logistics can be used for coping up with resource depletion and environmental problems while encouraging sustainable

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development (Liu 2014; Das and Chowdhury 2012; Sun et al. 2015). The increased environmental awareness and environmental laws have forced the companies to handle waste materials in an environment friendly way. Furthermore, returned products have a higher potential of cost recovery and to reclaim monetary benefits. This is why it is necessary to have a reverse logistics mechanism which could handle returns and waste materials efficiently.

Different definitions of Reverse Logistics are available, but the main theme is common. The council of Logistics Management has defined Reverse Logistics as “It is the process of planning, implementing and controlling the efficient, cost effective flow of raw materials, in process inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of capturing value or proper disposal”. According to Hazen et al. (2015), Reverse Logistics is the movement of items from the consumer side in the direction of the producer in a distribution channel. In Reverse Logistics process, a product returns to the manufacturer after its lifecycle has completed and can be used again to make other items and can be sold to end consumers (Choudhary et al. 2014; Coskun et al. 2016; Diabat and Salem 2015; Fahimnia et al. 2015; Godichaud and Amodeo 2015). “Reverse Logistics is the flow of products in a direction that is opposed to customary logistics with the aim of recollecting value or to dispose off the products in the proper ways (Demirel et al., 2014; Das and Dutta, 2013; Tibben-lembeke and Rogers, 2002)”. Reverse Logistics begins where the forward supply chain completes. In Reverse Logistics, the manufacturer looks out after the returns process and the items are recovered directly or by indirect networks (Ashayeri, Ma & Sotirov, 2015)

Reverse Logistics helps in the development of a Green and Sustainable Supply Chain. For an effective Green Supply Chain Management, it is necessary that the flow and reprocessing of materials should be done effectively and efficiently and the recycled material should be included in the main manufacturing stream. (Olugu et al., 2010b; Nunes et al., 2009)

It is really necessary to manage the end of life products not just because of the increasing amount of solid waste but also because of the economic advantages and legislative issues (Demirel et al. 2014; Das & Dutta (2013)). Many a time companies focus their energies and assets to forward operations forgoing the value that reverse operations can provide which are sometimes necessary for a company to survive (Bernon, Rossi and Cullen, 2010). In the recent years, reverse logistics has gained an important place in the global competition, compelling companies to adapt a number of policies and practices. This has resulted in the optimization of reverse logistics processes by taking care of financial, environmental and regulatory issues which make it a rapidly evolving research field (Xanthopoulos et al., 2012, de Brito, 2004).

Forward logistics strategies are not applicable to reverse logistics because there exists a large difference between them. The problems which fail the forward logistics mechanisms in handling reverse movement are difficulty in product forecasting, requirement of special equipment at a number of distribution centers and the uncertainty in product life cycle (Vaidyanathan and Yadong, 2007; Pokharel and Mutha, 2009).

Reverse Logistics is required in the food industry to provide quality and safe food to consumers without posing any threat to human life and the environment. The major factors which necessitate the use of reverse logistics in food industry are volatile food markets, shorter product lifecycles, return of faulty products, failure to comply with good manufacturing norms, not maintaining food processing facilities and equipment, not complying with SOPs and environmental laws.

The food industry has perishable nature of items due to which there is always a chance of products returning to the manufacturer i.e. Food Recalls. The other thing concerning the food companies is the food waste which should be dealt in an efficient way. Another important issue in the Food industries is the packaging material waste of the food items which must be dealt by the manufacturer to fulfill his duty towards the society and environment. Due to these aspects there is a need that food companies must possess a structured mechanism which could handle the product recalls (products returning to manufacturer), product wastes and the packaging material.

This study focuses on exploring the application of reverse logistics activities in Pakistan's food industry. The Pakistani Food industry is expanding. There are many companies in the market which are competing against each other for only 1 food item and there are numerous food items in the market. The food industry of Pakistan has 4 phases: production, process, transportation, and distribution. Thus it involves everyone from a small farmer to a retail distributor. The food industry has employed more than 20% of country's working population. In the recent years there has been a great boom in the food industry of the country. According to the Chambers of Commerce and Industry there are about 168 notable food companies dealing in different types of food items. Big names in the food industry include Nestle, Pakistan food and beverage company, Unilever Pakistan, etc. Other than these names there are companies like Shan Foods, Gourmet Foods, National Foods, and K&Ns etc.

Just like other developing countries, Pakistan is facing environmental issues. No planned drainage systems, not enough human and financial resources for collecting and disposing off wastes, no availability of official dumping sites and almost no availability of recycling processes have adversely affected waste management in our country. Solid waste management companies which are operated by government collects only about 50% of waste generated. Around 0.283 to 0.612 kg per capita per day waste is generated in Pakistan (Ministry of Environment, 1996). The food waste accounts for about 8.4% to 21% whereas recyclable materials account for about 13.6% to 23.55% of the total solid waste generated in Pakistan. In Pakistan, the town municipal administrations are responsible for collection, transportation and disposal of Solid waste, but due to lack of expertise, lack of funds and standards, they are unable to cope up with the increasing amount of waste generated.

The purpose of this study is to gain an insight on what are the barriers due to which companies don't use Reverse Logistics. No substantial data is available on reverse logistics especially in food companies. So, this study will be a forerunner in highlighting the reasons or difficulties companies face while implementing reverse logistics.

Reverse Logistics has been risen as an important aspect in business. With companies

focusing on specialized reverse logistics activities globally, it has become a hot topic among practitioners as well as academia. Neglecting reverse Logistics can cause a reduction in the value which a firm may gain from returned products, can have a bad impact on the relationships with customers and there is a chance that it can increase the cost of reverse logistics activities due to inefficient attention of management on the process (Souza et al., 2006).

This research will help companies to understand the importance and identify the benefits, both monetary and social, that Reverse Logistics could provide them. This study will guide them about the pre-requisites to develop a Reverse Logistics process or enhance their performance if they are already performing certain activities of Reverse Logistics.

Moreover, as there is less literature available specifically on Reverse Logistics in food companies, this research will guide future researchers to better understand the condition of Reverse Logistics in food companies and devise better solutions for the problems that companies face while implementing Reverse Logistics

The research aims to address the following questions:

**Q.1** How Local Food Companies in Pakistan are handling returns? What do they do with the returns?

**Q.2** What are the barriers to the implementation of Reverse Logistics processes in food companies?

## **2. Literature Review**

### **2.1. Reverse Logistics**

According to the Reverse Logistics Association, Reverse Logistics is defined as “all activities associated with a product/service after the point of sale, the ultimate goal of which is to optimize or make more efficient aftermarket activity, thus saving money and environmental resources”. A reverse logistics process starts when the consumer has decided that the product has completed its life and now it needs to be disposed of (Blumberg, 2005).

The main activities involved in Reverse Logistics include Product acquirement and collection, examination and categorization and disposition (Niknejad and Petrovic 2014; Agrawal et al. 2015; Farhani and Ozturk 2015; Ali et al. 2016). The collected products can be useful in various ways such reusing, selling to other markets, repairing, refurbishing, remanufacturing, recycling and if not possible then disposing it off is the only option available.

Reverse Logistics players comprise of manufacturers, distributors, wholesalers and retailers. Beside these there are some additional players in RL process who are experts in this area. These include 3PLs (De Briton & Dekker, 2003; Efendigil et al., 2008), brokers, jobbers (Efendigil et al., 2008) and intermediate processors (Krikke 1998).

The 3PLs are used when a company wants to outsource their reverse logistics activities. Brokers buy the returned products at a very low price and sell them to secondary markets (Rogers and Tibben-Lembke, 1998). Jobbers are the entities which buy returned products from retailers and after repairing they sell them to consumers or

intermediaries (Bernon et al., 2011). Intermediaries are somewhat similar to jobbers. They buy the recyclable materials and after performing certain operations on them sell them to manufacturers (Krikke, 1998).

For a successful Reverse logistics system, it is necessary that all people involved must be aware of its importance and how it works. Due to the uncertainty in the timing and quality of returned products, specialized networks, handling systems and information processing systems are needed (KO and Evans, 2007). This difficulty of forecasting returns is due to the fact that there are a lot of suppliers i.e., consumers when talking about returned products. Moreover, all the returned products do not have the same conditions.

All the municipal solid waste practices are basically Reverse Logistics Operations, which are of great importance in the developed world. Solid waste management is a very important topic under consideration globally and apprehensions about it have been continuously on the rise since the 1990s (Kannan et al., 2014). A number of studies have identified the need to reduce the quantity of solid waste which is being dumped in landfills and increasing the reuse of material after its lifecycle has ended (Lederer et al., 2015; Danubianu and Teodorescu, 2015; Gutberlet, 2008). When these MSW (municipal solid waste) management practices are done efficiently, they can result in improved levels of recycling and reduced amounts of MSW to be disposed off in landfills or incineration (Beullens, 2004; McLeod et al., 2008). The municipal Reverse Logistics providers are dedicated to reduce the amount of MSW sent to landfills by efficient waste recovery techniques (Dovidio, 2013).

Reverse Logistics has been viewed as both a business enhancing process as well as a step towards fulfilling the corporate social responsibility of the company. Environmental and economic issues are the major driving forces for Reverse Logistics. This results in a closed loop supply chain system which means that the forward supply chain is accompanied with Reverse operations by which the returned products are reprocessed. Many researches have shown that the application of reverse logistics can result in many benefits which include having a greater position in the market due to a lot of cost saving (Jack et al., 2010; Srivastava and Srivastava, 2006), an increase in profit (Nidumolu et al., 2009; Alfonso-Lizarazo et al., 2013; Das and Dutta, 2013), increase in satisfaction of customer (Li and Olorunniwo, 2008; Richey et al., 2005) and a reduction in environmental impact (Sundarakani et al., 2010; Lai et al., 2013).

The company producing a certain product is the master of its fate after its lifecycle. The decision of whether a product is economically beneficial to recover depends on the firm. Buellens (2004) says that a company who wishes to adopt a reverse logistics process might overcome the technical and legal problems but it is the cost that may demotivate them. Although if resources are efficiently used to develop innovative ways to handle returns, then the RL process can be beneficial (Richey et al., 2005). By implementing Reverse Logistics, a company cannot only gain economic advantages such as cost savings in inventory and waste disposal but also results in improved customer loyalty (Kannan et al., 2012). The economic advantage occurs due to the recycling of products while environmental benefits by the reduction of solid waste pollution (Ginter and

Starling, 1978), landfill saturation (Kroon and Vrijens, 1995) or preservation of raw materials (Ginter and Starling, 1978). Nagel and Meyer (1999) in their research have devised a procedure that systematically models the end of life networks of products and have also put light on ways by which existing and new systems can be made better keeping in view the ecological and economical aspects.

A successful RL system enhances the public image of the company. It can help a company to increase its sales. When customers face no hassle in dealing with returns, they are more willing to complete the initial sale. (Daugherty, Myers & Richey, 2002; pp. 86). Firms which do not appreciate the importance of Reverse Logistics do not only risk relationship with customers but also jeopardize the company's name and brand image (Fleischmann et al. 2003; Stock et al. 2006).

Consumers as well as manufacturers are unaware of the benefits Reverse Logistics can reap (Ravi and Shankar 2015). Similarly, they are unaware of the adverse effects caused by the absence of RL. A lot of cost saving can be done when a company has implemented a successful RL mechanism. There is a cost saving of about 40-60% by remanufactured products in comparison to making new products from scratch and it saves about 85% of the energy used because due to remanufacturing the life cycle of the product is stretched (Kumar and Putnam, 2008). Petersen and Kumar (2009) have estimated that rate of returns is greater than 25% of total sales which is approximately \$100 billion in lost sales in U.S. which leads to a profit reduction of 3.8% per retailer or manufacturer. A firm's performance can be evaluated by the extent of its involvement in RL activities. Nikolaou, Evangelinos and Allan (2011) reported that firm performance is gauged by economic sustainability and they have presented many sustainability indicators such as sales of reuse, resalable and recyclable, cost of returned materials, and subsidies associated to reverse logistics. Keeping in view such statistics, companies have become aware of the importance of reverse logistics. Quite a large number of books and case studies have been presented in many industries which presents variety of recovery options (Guide and van Wassenhove, 1999; De Brito et al., 2005; Flapper et al., 2005). Companies like Dell, AT&T, Sony, Lenovo, Siemens and Nokia have worked a lot towards the collection of e-waste and recycling programs (Kang and Schoenung 2005; Kahhat et al. 2008; Nnorom and Osibanjo 2008; Yu et al. 2010; Govindan and Popiuc 2014; Esenduran and Kemahlig'lu-Ziya 2015). Xerox, for example, has developed an efficient reverse logistics process from product development to recovery or disposal (Maslennikova and Foley, 2000). Recellular, a mobile phone company, remanufacture mobile phones and generates a good amount of money from it (Guide and Van Wassenhove, 2003). Duhaime et al. (2000) discuss the distribution and collection of returnable containers by Canada Post. Companies like Eastman Kodak and Hewlett-Packard have used reverse logistics which has been proved beneficial for them (Marien, 1998). Haier group in 2007 created a recycling center in Qingdao where about 200000 used home appliances e.g. TVs, washing machines and ACs can be recycled (Lai et al., 2013). Similarly, IBM introduced an IBM Sterling RL with the help of which the company could keep a track of items through the return and repair process which enabled to return items to stock and classify the item as refurbished automatically

(IBM, 2014). RL has become a profitable business for many entities. NGOs should consider Reverse Logistics from a business perspective and convert this into a profitable business (Seelos & Mair, 2005; Brugmann & Prahalad, 2007).

The typical activities which are involved in reverse logistics are: Gate keeping (which products would enter the RL system to avoid unnecessary handling and cost), Sorting and Storing (putting the products in different categories), Asset Recovery (recovering economic and environmental value which includes processes of remanufacturing, refurbishing etc.) and transportation.

There are different types of returns which include manufacturing returns (scrap, defective products), distribution returns (product recalls, packaging returns) and customer returns (warranty claims, end of life products). There are different types of RL mechanism for different products.

Product returns accounts for a large portion of business especially in the retail sector. The products being returned in the retail sector of UK accounts to about £5.75bn (Bernon and Cullen, 2007) while in USA this amount equals around \$100bn. Considering the huge amount of returns, a sound mechanism is required to handle returned products. Reverse logistics should not be considered optional but it should be considered necessary as very small number of firms have made policies regarding the products that move backward in the supply chain (Autry 2005, p755). Because there are very less standards in Reverse Logistics, it requires greater attention in terms of labor and innovative ways should be devised to handle returns (Richey et al. 2005c). The unavailability of standards can be attributed to the fact that every returned product has different condition.

The food industry is increasing in size day by day. According to European Commission, there are more than 17 million operators and 32 million individuals involve across the food chain (European Communities, 2008). About 2% of European GDP and 13.5% of total employment is provided by the food industry (Federalimentare, 2012). The Italian food industry is also very big and consists of 32,300 companies and provides employment to about 405,000 people. Moreover, it exports about 23 billion Euros per year due to the food industry (Federalimentare, 2012). The food sector has a very large impact on the environment in terms of food waste and packaging material. The environmental impact caused by food and drinks sector accounts to about 20%-30% of all environmental impacts (Bakas, 2010). Beef products followed by dairy products have the greatest impact on environment (Tukker and Jansen, 2006). The EU food industry is subjected to very strict regulations regarding the environment. As a result of these regulations, companies are compelled to implement reverse logistics to become more sustainable (Nikolaou, Evangelinos and Allan, 2011). Companies are also in the process of making collaborations with food manufacturers to collect and recycle defective or returned packaging material. In a food supply chain, the risks are not tolerable because risk endanger the quality and safety and consequently consumers' health (Maruchek et al., 2011). Due to the global needs, companies have to work to develop such a SC strategy which provides them a competitive advantage in terms of quality, efficiency, sustainability and safety (Christopher and Holweg, 2011).

As the food industry is a retail industry, there exists a large difference between forward and reverse logistics, for example in forward logistics forecasting is very easy whereas in reverse logistics it is very difficult because the number of suppliers (consumers) are great, in forward logistics packaging is uniform whereas in RL it is not, forward logistics cost can be easily calculated, whereas reverse logistics cost are not directly visible, the destinations/ routes are much clear in forward logistics whereas in reverse logistics it is not, the product quality is not same in reverse logistics (Tibben-Lembke et al., 2002). The returned products come in any type of box or package and there can be a wide variety of returned products (Dutton, 2010).

## **2.2. Reverse Logistics in Food Industry**

In context of food industry factors like product expiry, damage, mistake in orders, overstocking and recalls initiate the reverse logistics. The three typical issues in food industry for which reverse logistics is required are food recalls, food wastage and packaging waste. In the food industry it was the grocery retailers who used reverse logistics for handling their returns. This resulted in the development of centralized return centers.

For having a sustainable SC reverse logistics is necessary. RL in food industry mainly deals with the food packaging returns, source conservation, food recalls, recycling, reuse and disposal. It includes collecting packaging material/returned products at collection centers then transferring them to centralized distribution centers and finally recovering the value from it (Accorsi et al., 2011; Das and Chowdhury, 2012). Due to the perishable nature of food items, reverse logistics is very much needed in the food industry. A centralized distribution center is the most commonly used practice to handle return food items (De Koster, De Brito and Van de Vendel, 2002). A centralized distribution center reduces the overall operating costs (Min et al. 2006). This centralized structure enables a better visibility and control of returned products to suppliers and retailers (Terrerri, 2010).

The performance of a RL mechanism in a food industry is dependent on several factors such as food specific features, cost, competitive advantage, regulations and information management. According to Coelho, Castro and Gobbo (2011) the impact that reverse logistics can have on environment can be judged by measures such as energy use, CO2 emissions, water pollution, and urban traffic congestion. The physical characteristics of any food item would decide how the reverse logistics process will take place. Many companies have now acknowledged the importance of RL and have implemented them. For example, nestle has shown a reduction in waste up to 3.1% and has increased reuse or recovery to 4.2% (Nestle, 2011).

Defective products are easily returned by customers or retailers but the products that have concluded their life cycle are difficult to obtain from consumers. Same is the case with the packaging material. Once the consumer has used the products, mostly the packaging is thrown away. Companies need to deal with this packaging waste also. According to the Solid waste Management Act No.18 in Indonesia, the manufacturers of anything are required to handle the packaging of the product they are producing and

the product itself if the packaging or product does not decompose easily in a natural way.

As mentioned earlier, the typical issues for which RL is needed in food companies are the, food recall (food items which need to be brought back due to some fault), Food Waste (recalled food items or items returned by the consumers which are left unattended), packaging waste (packaging returned with returned items or packaging thrown away at consumer's end).

### **2.3. Food Wastage**

Food waste is caused when the defected food items are thrown away unattended. Food Waste can be defined as items which have not been sold or consumed at any stage of the supply chain which are considered to be not suitable for eating (Griffin et al., 2009; Kummur et al., 2012; Parfitt et al., 2010; Sonnino and McWilliam, 2011; WRAP, 2013b). In Europe many debates have been seen with the aim of efficiently using the resources and to decrease environmental costs by decreasing food waste disposal (European Commission, 2011; WRAP, 2011). An idea of redistribution of surplus food has been coined to decrease poverty and to reduce waste created by food items. (European Commission, 2012; WRAP, 2014).

Food waste is a very serious problem in the U.S. In the year 2010, it was estimated by the Environmental Protection authority that 34 million tons of food was thrown away which accounts for about 14% of municipal solid waste in the U.S. A study conducted by Gustavsson and Otterdijk (2011) showed that global food losses and waste are about 1.3 billion tons of food per year that is about 95-115 kg/year/capita in EU and North America and 6-11 kg/year/capita in Sub-Saharan Africa and South/South east Asia respectively. Household wastes account for approximately 14-26% of food sales in USA and about 27% in the UK and the food returns were 1.2-1.8% of total sales in 2010 (Nestle, 2011; Terreri, 2010). On an average about 520kg per person municipal solid waste is generated in Europe per year and it is estimated that this would increase to 680kg per person per year by the year 2020. 179 kilograms per capita of food waste was produced by the countries in the EU (O'Connor, 2013). 230 kilograms per year food and drink waste was observed in UK per household and this didn't include packaging waste (WRAP, 2013a). About 5.5 million tons of food waste was observed to be generated from agriculture to households in the Italian Food Supply Chain (Garrone et al., 2013) whereas in the whole Swiss Supply chain the food waste accounts to about 299 Kilograms per capita per year (Beretta et al., 2013).

Food waste is one of the major components of all municipal waste that is created and its disposal in landfills has adverse effects on the environment (EPA, 2009). The food waste that is dumped into landfills goes under Anaerobic decomposing which is the breaking down of organic materials by bacteria without the presence of oxygen which results in the production of methane which is far more powerful in causing global warming as compare to carbon dioxide. The aerobic decomposition occurs in the presence of oxygen which emits carbon dioxide in relatively lesser amounts and does not produce methane. Food waste handling and its delivery to the landfills and

incinerators is very much expensive and disposing it in landfills can lead to environmental problems and can cause health damages. (Means, Starbuck, Kremer, & Jett, 2005). Food waste if incinerated can cause problems like combustion efficiency and dioxins (Zurbrugg C, 2002). Due to this reason, a shift from dumping food items in landfill has been observed. This is the reason why Governments are considering to deal with food waste efficiently. The waste strategy 2007 for England considers food waste as a key priority for improving the landfill diversion performance of local authorities (Department of Environment Food and Rural Affairs, 2007).

There can be various reasons for food wastage some of which include excess buying, premature harvesting, inadequate labeling and storage instructions, poor storage facilities and transportation, production errors, trial runs, packaging defects, and wrong weights and sizes (Fotopoulos, Vlachos, and Maglaras, 2010; Gustavsson and Otterdijk, 2011). Wrong labeling has been a major cause of food wastage. This has generated about three million tons of food and drink wastage (Karolefski, 2007). Whatever the reason may be, there is a need of a sound reverse logistics system to deal with it. About 96% of the food wastage occurs because of cooking too much food and food which is not used before the date of expiry (WRAP, 2009). Mostly people think that food items are biodegradable and cannot be damaging for the environment. Mostly food losses and waste in low income countries occur during the early and middle stages of food supply chain. The reason being the inadequacy of managerial and technical limitations while in high income countries food losses occur at the later stages of the supply chain reason being limitations and regulations e.g., quality standards and consumer behaviors e.g. excessive buying, inability to understand best before dates and left overs (Parfitt, Barthel and Macnaughton 2010).

#### **2.4. Food Waste Recycling and Disposition**

The food waste that is created should be catered efficiently. Most of the time this food waste is dumped into landfills. This causes leaching in the soil which pollutes the water under the soil. Moreover, this type of food waste, when dumped in landfills, creates methane by the action of bacteria which is a greenhouse gas and adversely affects the ozone layer. This type of disposal in landfills creates another problem of limited space. Other than this, food waste is a valuable resource that can be used to create something useful such as Biogas and feeds for animals. This can result in additional benefits for the company both in terms of finance and environment friendly image. For recycling of food waste, one needs to have a mechanism by which food waste can be gathered and properly recycle or if needed properly disposed off..

Food recycling is being implemented in many countries. IKEA along with Cyrenians Organics Waste Recycling (CORE) presented a different approach to food waste recycling in its Edinburgh Store in 2009. IKEA successfully recycled food waste into many useful products. Before 2009 all food waste was sent to landfills. The Food waste recycling was introduced in two phases. Beginning in October 2009, the first phase included segregation of food waste that was created at the food preparation site. This waste was then used to make Fertilizers and energy at a local anaerobic digestion plant.

The second phase which was started in June 2011 aimed at recycling food waste that was created by the customers in the cafeteria. This included placing three different bins at the cafeteria for food waste, general waste and recycling. Implementing such strategies enabled the store to decrease its greenhouse emissions which resulted in carbon dioxide savings of 15.2 tons and 6.8 tons of methane each month with a monetary benefit of 1200 Euro (Zero Waste Scotland). In Japan, the Law for the promotion of Effective Utilization of Resources has enabled the country to excel in recycling, waste management and health protection (OECD 2010; Koizumi 2008; JSWME 2007; MoE 2013a). Especially food waste recycling in Japan is considered to be very important as it makes up one fourth of municipal solid waste and has large effects on the environment. (Melikoglu, Lin, and Webb 2013; OECD 2010).

One of the major strategies to deal with food waste is to turn it into Compost. This has been widely utilized to handle food waste in many countries. Compost is the most suitable process for handling food waste. This process takes place by making a heap of wet organic matter and waiting for them to break down or decompose by the action of bacteria and fungi in the presence of oxygen. This method is far better than throwing away food items in landfills. When the food waste is dumped into the landfills, it gets pressed down and liquefies and gets intermingled with toxics and seeps into the ground polluting the water in the ground (Crawford, 2003). This compost is used as a fertilizer and results in less emission of greenhouse gases which are produced during the manufacturing of synthetic fertilizers. Overuse of Synthetics Fertilizers is the largest reason of Nitrogen Flux down the Mississippi and Atchafalaya rivers to the dead zone in Gulf of Mexico. (Gruby & Crowder, 2009). Furthermore, the nutrients from the synthetic fertilizers are taken in a very small amount by the plant, while the excess of nutrients go to rivers, lakes and coastal area and causes pollution (Dybas, 2005). The nutrients from Compost are released slowly, which decreases the loss of nutrients (Sullivan, 2004). Taking care of food waste by compositing not only reduces the need of synthetic fertilizers but also prevents plant diseases and pests increasing the yield (Larkin, Tavantzis, Bernard, Alyokhin, Erich, & Gross 2008). This type of food waste handling results in the increase in the soil quality, soil water retention and reduces the need of extra efforts (United States Composting Council, 2008).

Many other alternatives have been developed to handle food waste effectively which are beneficial economically and environmentally. Food Recycling Law was enforced in Japan in 2001 with an aim of reducing the food waste and reutilization of food resources. Alfo Ltd. in Japan uses cooking oil to deep fry food waste, sterilize it and dry the final product to produce raw materials for making feed. In the same way Bio Energy uses food waste to generate 24000 kWh electric energy. The revision of the law in Japan encouraged the conversion of food waste into feed or fertilizer and coined the term “heat recovery” (MAFF 2008a; Tanimura 2008). This revision also demanded to report the amount of food waste generated and reusing it to the Ministry of Agriculture, Forestry and Fisheries (MAFF). The waste producers were asked to buy food which is grown using food waste derived products. This resulted in the recycling of resources completely. This resulted in lower greenhouse gas emissions and economic efficiencies

as compared to previous waste disposal techniques (MoE 2013c; MAFF 2013b; Takata et al. 2012). Another example is of supermarket chain Uny Co. Ltd. Which provides its food waste to a recycling company named Sanko Ltd. Sanko produces fertilizers that are bought by agricultural/ forestry/fishery dealer who uses these fertilizers to produce vegetables, fruits, rice etc. Similarly, at Mister Donuts left over donuts are used in making feed for livestock.

Similarly, in Korea, food waste is being converted to many useful products. According to the Korean Government Food wastes were disposed off properly by recycling them into mainly animal feeds and compost (Ministry Of Environment Korea, 2008). The Government of Korea has set up Dry feed facilities and composting facilities. In Korea three different ways of Food waste disposal were observed. The goal of each was to reduce the waste produced and environment friendly disposal. The first method was Anaerobic Digestion in which Biogas was produced by the process of hydrolysis, acidification and methane fermentation which could be used to produce electricity. The second method was Co-digestion with sludge in a sewage treatment plant to produce Biogas. The third process is incineration in a dryer. This process involved removing the moisture content from food waste and burning it at a temperature of 850 to 1100 degree centigrade along with municipal solid waste to produce steam which could be used to run a steam turbine and as a result produce electricity.

Hong Kong is also facing the problem of food waste. Hong Kong has a limited area for disposing of municipal solid waste. About 9000 tons of solid waste was dumped every day in 2012. It has been forecasted that the three main landfill sites would reach their maximum limit by the year 2020 (HKEPD 2013). Out of this 9000 tons of waste produced about 3600 tons comprise of food waste and out of this 3600, about 2500 tones is produced by households and about 1100 tons from food concerning commercial and industrial avenues. Food waste recycling is not so much popular in Hong Kong. About 0.6% of the food waste created in 2016 was recycled (HKEPD 2014b). To cater such an enormous problem of food waste many techniques have been adopted by Hong Kong Special Administration Region Government. These techniques mainly involve prevention of food waste at its source, redistributability of food for human consumption, recycle the food waste and disposal of MSW (HKEB 2013).

Adding food waste into sewage sludge increase the Bio gas output which provides more energy for electricity production (Sosnowski et al. 2008). This is due to the fact that food waste can produce methane three times more than sewage sludge (USEPA 2013). Moreover, this Biogas can be used as a fuel for vehicles as biogas has high methane content (about 98% by volume) (Patterson et al. 2011). From an environmental perspective, the use of Biofuels can reduce the need of fossil fuels and consequently would produce lesser GHG. The greenhouse gas emissions can be reduced by 75 to 200 percent using Biogas fuels as compared to Fossil Fuels Papacz (2011). Using Biogas as fuel for generating heat and electricity has economic advantages as compared to fossil fuels (Murphy et al., 2004). Biogas generated from 1 kg of food waste is equal to about 0.13Liters of petrol (Hafeez, 2013). This bio gas can drive a car with engine size of 2501–3500 cm<sup>3</sup> providing an average consumption of 14liter/100km to drive

0.93km/kg treated food waste (EMSD 2013). Moreover, using biogas fuel in 12000 cars would result in the reduction of carbon dioxide to about 96000tonnes per year (Rydberg et al. 2010). Sweden has employed about 32 Biogas upgrading plants. (Patterson et al. 2011). In Linköping, a biogas plant produces about 4.7 million m<sup>3</sup> of upgraded biogas fuel which is being utilized in 64 buses and in some light and heavy vehicles (IEA Bioenergy 2014). It has been observed that a bus running on biogas fuel reduces carbon dioxide emissions by 90tonnes/year and nitrogen dioxide emissions by 1.2tonnes/year (Francis and Bell 2008). The organic recovery center in France, produces biogas for 100 urban buses and 10 waste collection trucks (BCEP 2014). Standards have been made for utilizing biogas as a vehicle fuel in countries like Sweden, Switzerland, Germany and France (Patterson et al. 2011).

As it can be seen that how much food waste can adversely affect the environment and by recycling this waste how a company can get financial benefits, it is necessary that there should be mechanism developed which collects these food wastes efficiently and recycle it as much as possible. This system is named as Reverse Logistics as it provides strategies to collect waste and salvage value from it.

## **2.5. Packaging Waste**

Another source of waste is the packaging material of food items. Packaging refers to the technology and material for enclosing or protecting products for distribution, storage, sale, and use (Soroka, 2002). The most common type of packaging material used is paper which accounts for about 34%, then there is rigid plastic which is 27% of the total, followed by metals which is about 15% after that there is glass accounting for 11%, flexible plastic 10% and other materials about 3% (Rexam, 2011). About 50% of Plastics are used in disposable items such as packaging, agricultural films and consumer items, about 20-25% are used in products such as pipes, cables and structural materials while the rest is used in durable consumer items such as in electronic goods, furniture and vehicles etc. The EPA calculated that about 31% of municipal solid waste was due to packaging material which includes glass, metal, paper in 2005 (EPA, 2006a). Barnes et al. (2009) says that the packaging, electrical equipment and plastics from end of life vehicles contribute majorly towards both household and industrial waste. The most common use of taking care of this waste is landfills but landfills have limited capacity to cater these wastes (Defra et al. 2006). the plastic waste accounts for about 10% by weight of the municipal waste (Barnes et al. 2009). About 47% of the 520 kg per capita household waste created in Europe in 2004 was catered by landfills (EFA, 2008). It could be very much harmful for the human as well as animals. It has been found that in more than 260 species which include invertebrates, turtles, fish, seabirds and mammals ingested plastic debris which have caused many problems such as ulcers, decreased reproduction and death (Laist 1997; Derraik 2002;Gregory 2009). Plastics have a long life. Due to this very reason if they are disposed to landfills, it is merely keeping the problem for the future (Barnes et al. 2009; Hopewell et al. 2009). Another major issue with landfill is that none of the material resources used to produce plastic are recovered which means that the material flow is linear instead of cyclic (Oehlmann et al. 2009;

Teuten et al. 2009). In countries like Japan, the excavation for landfilling is really expensive because of the hard surface of the underlying volcanic bedrock while in Netherlands it is expensive due to the penetrable nature of the land due to sea. The plastic has caused much pollution as they are not easily decomposed. The environmental implications of reclamation, reuse and recycling to save landfill space, energy, and costs are vital for organizations (Sarkis et al., 2010). Packaging should be made as such that it should be easily disposed off if not recyclable because most of the time packaging is one way and has very great effects on environment (Andersson and Ohlsson 1999; Lewis 2005; De Monte et al. 2005). With the increasing usage of packaging material there has been an increase in the problem of waste disposal which has resulted in landfills near urban populations (Reynolds 1993, 1; Twede and Goddard 1998, 9-12; Gidarakos et al. 2005). Every year in the United States, the paper, aluminum, glass, plastics and other recyclable material is thrown away. Recycling this material would result in an amount of approximately \$11.4 billion. Single-use food and beverage packaging contributes to about 269000 tons of plastic pollution in world's oceans (EPA, 2006a). Since the Plastics are made of durable polymers, large quantities of discarded plastics accumulate as debris in landfills and natural habitat. Recycling of plastics results in reduced usage of oil, lower carbon emissions and eventually lower quantity of wastes.

Another way of dealing with plastic waste is to burn them. Incineration reduces the need of landfills but hazardous materials can also be released into the atmosphere. PVC and other halogenated plastics, when incinerated, releases dioxins and other polychlorinated biphenyls into the environment (Gilpin et al 2003).

Recycling is the most effective way of reducing this environmental impact and resource depletion. Many countries in the world have identified the importance of reducing the impact of their operations on the environment and have started to apply optimization techniques (Beamon, 1999; Farahai et al., 2010). Carter and Easton (2011) said that the development of models and decision support systems which directly interact with the environment, social and economic performance is necessary. According to the European directive 94/62/CE, packaging manufacturers and manufacturers who use packaging are responsible for recovery of a percentage of what they place in the market. Considering all these problems, some companies have taken initiatives towards the reduction of packaging waste. Starbucks, for example, in collaboration with paper recyclers have taken a step-in recycling greasy and food stained paper. It has initiated the preferred supplier program which rewards suppliers for both environmentally and socially responsible practice (Schrage, 2004). On the same lines McDonald's focuses on its sourcing practices while keeping the environment in consideration by going for factors such as water and energy conservation, air pollution, waste and recycling, habitat preservation and use of chemicals (McDonald's, 2004). Kellogg Co. in 2000 developed a closed loop supply chain. This closed loop supply chain combines traditional forward supply chain activities with return management. The loop closes with accountability from all functional areas which include customer service, distribution centers, logistics, marketing, packaging, remarketing and returns

management, research, retail sales, quality and packaging suppliers. This plastic waste should not be left unattended. When a plastic degrades under the influence of weather, it first decomposes into small pieces of plastic debris, but it is not necessary that the polymer may completely degrade. Due to this, large quantities of plastics are piling up in landfills causing waste management issues and environmental damage. (Barnes et al 2009; Gregory 2009; Oehlmann et al. 2009; Ryan et al. 2009; Teuten et al. 2009; Thompson et al. 2009).

Since most of the food items are sold in plastic packaging, the packaging waste from food items contribute a lot towards the waste created. This packaging waste needs to be monitored and managed in the most suitable way. The best way to avoid packaging waste is to recycle or reuse it. It not only has positive effects on the environment but also can provide many avenues for cost efficiency. Using recycled plastic materials have proved to be more profitable due to continuously rising prices of oil (WRAP, 2007). This waste plastic has many useful benefits. This can be again used in the packaging of new food items. These can be used in making other plastic items or can be used to produce Electricity by direct combustion or by changing it into fuel resulting in the reduction in usage of landfills (Garforth et al 2004). A life cycle assessment specially for PET bottles indicated that the use of 100% recycled PET instead of 100% Virgin PET would result in a reduction of carbon dioxide from 446 to 327g per bottle which would ultimately result in the emission reduction by 27% (WRAP, 2008e). The recycling of post-consumer plastic have less environmental effects than producing virgin plastic (Wong, 2010).

Companies have to deal with the packaging that comes with the returned products but also with the packaging waste that is created at the consumer's end. Due to increased Environmental considerations, it is not only necessary for food producers to deal with packaging of returned items but dealing with packaging waste created by their products at the consumers' place is also considered to be a part of his duties. In the year 2014/15 in UK 492,623 tons of plastic packaging waste was collected from the households (RECOUP Household Survey 2015). The plastic waste generated by consumers in 2007 in the European Union was 24.6 million tons. (Plastics Europe, 2008b).

The packaging material which comes back with the returned products is easily collected but the plastic waste that is created at the consumers' end is very much difficult to gather. Refilling schemes and take back schemes have been introduced in several European Countries which include both PET and Glass bottles (Institute for Local Self-Reliance, 2002). Such schemes are only fruitful, when the consumers are highly committed towards the environment or some incentives are given to them. Another method is to have a deposit refund scheme in which consumers are charged at the time of purchase and are refunded when they return the empty packaging or bottle.

## **2.6. Food Recalls**

Now the business aspect for which reverse logistics is required in food industry is the Food Recall. A food recall is majorly initiated because of some defect in the food items. A food recall is carried by a manufacturer or distributor to protect the people from items

which could lead to health problems or even worse, death. Product recalls basically portrays the quality failures the consequence of which is a harm event (Siomkos & Kurzbard, 1994).

During the first quarter of 2012, about 142 recalls were made by more than 130 companies (about 9 companies having multiple recalls) in the U.S. alone (FDA, 2012). According to the Consumer product Safety Commission (2012) the damages caused by product harm events are quite great irrespective of that whether the event has occurred due to faulty consumer product, food borne illnesses. This account to about \$900 billion annually in terms of unsafe consumer products, healthcare and property damages. Healthcare costs account to about \$77.7 billion due to food caused pathogenic illness (Scharff, 2012). Roberts (2007) says that one out of six gets affected by food borne illness and this causes an amount of \$1.4 trillion annually in terms of health care costs and productivity losses. Product recalls have both indirect and direct costs to the company. Market share, shareholder value and reputational impacts to the firm all are measures of indirect costs whereas reverse logistics, warranty, replacement, and repair costs along with product liability are the measures of direct costs (Jarrell & Peltzman, 1985; Rupp, 2003). Despite such huge costs' companies are rarely considering a proper mechanism for product recalls. Companies do not pay much attention towards the reverse processes in terms of their effectiveness and efficiency as compared to the attention they give towards forward logistics (Reverse Logistics: Returns, Refunds and Recalls, 2009).

In case of food recalls defective items should be taken off the shelves immediately and collected. After proper collection, they can be dealt with in the most suitable way. This collection and dealing with defective products is only possible when a company has a sound system for collecting and handling these items i.e. Reverse Logistics.

To have an efficient recall mechanism, it is necessary that all stakeholders within the supply chain have a close cooperation and coordination. Some determinants of efficient reverse logistics process are good inventory management, good relationships among the stake holders of supply chain and good management information systems. The supply chain recall detection competence means that all stakeholders within the supply chain work collectively on operational monitoring, integration and coordination. This includes all the monitoring systems, all communication channels, feedback mechanisms and integration strategies which allow the supply chain to identify problems at first hand and solve them faster (Cohen & Levinthal, 1990; Tu, Vonderembse, Ragu-Nathan & Sharkey, 2006). Having a reverse logistics system identifies where the problem exists, thus helps in reducing the number of returns.

### **2.7. Reverse Logistics in developing country like Pakistan**

In spite of the importance of RL, there has been less work done specially in Pakistani industry. Less work has been done on how to deal with products that are returned or have completed their life. A neglected area in Reverse Logistics is how to handle end of life products, especially how to recycle them or properly dispose them off (Binget al., 2014; Ritchie et al., 2000; Xie and Breen, 2014) (Mishra et al., 2012). Wright et al.

(2011, p. 10) has said that the development of recycling channels has received less attention. In spite of the importance of reverse logistics companies do not employ it. There is a dearth of literature on RL in spite of the importance of the subject (Dowlatshahi, 2000). Less work has been done on the strategic aspects of Reverse Logistics (Rubio et al. 2008). Reverse and recycling supply chains have been neglected in the supply chain area (Wong 2010). Less literature is available on the application of Reverse Logistics in Food Companies. The literature that is available is mostly from the manufacturing side. Iron and steel industry, commercial aviation or medical products sectors to name a few (Dowlatshahi, 2000). No proper work has been done on the problems that companies face while employing reverse logistics. No proper research has been done on the current practices being employed in handling returns.

### **2.8. Barriers to Reverse Logistics**

The literature has mentioned several reasons due to which companies do not establish a Reverse Logistics system.

For the success of any Logistics operations, top management support is essential (Daugherty et al., 2001, 2002; Guide and Van Wassenhove, 2001; Richey et al., 2005b). This means that the management must commit resources for personnel allocation, employee training and for managing the relationships between consumers and partners in the supply chain. Resource commitment has found to be positively related to RL capability (Jack et al., 2010).

For a successful RL system, it is necessary that all the stakeholders are made aware of the returned products at each channel of reverse process as it results to the formalization of processes. Timely delivery of accurate and clear information is necessary to achieve operational efficiency and customer satisfaction (Genchev et al., 2011).

Different studies have pointed out different difficulties. The relative unimportance of Reverse Logistics is the major barrier in the implementation of RL system (Rogers and Tibben-Lembke 1999). The companies may not be attentive towards efficiently handling returns. The absence of internal policies because the employees are unaware of the processes is another barrier which hinders the development of RL process (MARTINS; SILVA, 2006). Cultural barriers also contribute to the hindrance in developing of RL system, because the concepts of sustainability, reducing environmental burden, proper waste disposal though being popular are hardly practiced by both consumers and companies (LEITE, 2009). Many companies do not reuse the returned parts because they don't have any kind of knowledge about how to reuse those (Wahab et al. 2010). It has been found that the hindrances in the implementation of RL in European countries include lack of senior management attention, lack of extended producer responsibility concept, not recognizing RL as a thing which could give an added advantage to company relative to the competitors, not having proper management systems, no collaboration between stakeholders, not good enough planning and forecasting of return products and not having the notion about adverse effects on the environment because of not having a RL process. (PricewaterhouseCoopers, 2008).

Cost is also one factor. Garrone et al. (2014) show that food recovery efforts are often limited by financial and logistical constraints that make it difficult to supply recovered food to potential recipients. Another thing to add here is the high cost of recycling systems as compared to the value recovered from the returned products which creates a problem of low profitability (Brito; Seara 2010). Companies hesitate in implementing Reverse Logistics because there are no indicators available that measure the cost benefits of having a reverse Logistics system. This lack of indicators results from the unavailability of knowledge or no awareness about the cost of operations (Shibao et al., 2010).

Absence of authentic knowledge on how companies should handle and deal with returns is scarce and the relative unimportance causes the company to resist in developing RL process. As there is less knowledge available on recycling and remanufacturing as a consequence very minute amount of materials are reprocessed therefore RL is not considered a great value-added activity (Kinobe et al., 2012). According to Chan and Chan (2008) the reason that companies do not indulge in Reverse Logistics is the insignificance that companies give to RL. This is due to the reason that companies do not focus on the positive effects that a RL system can have. As mentioned earlier, not having a clear return policy is also a major barrier, so by making a clear return policy, the control over returns can be increased and abuse from customers in terms of product return can be reduced (Autry, 2005; Genchev et al., 2011; Richey et al., 2005b). As RL is a part of green SCM, the barriers in the development of GSCM involves the lack of awareness (which includes lack of top management support), technological limitations, the scarcity of environmental information and trainings (Nikbakhsh, 2009).

The unavailability of new methods and skilled people is also considered to be the one of the hindrances. It has been observed that companies use labor oriented, manual, inefficient reverse logistics processes. (Thrikutam & Kumar, 2004). Many companies do not have efficient Reverse Logistics management softwares (Rupnow, 2011). Poorly defined return processes make the location, identity and conditions of returned items difficult to be known which is attributed to Poor Knowledge about RL (Thrikutam & Kumar, 2004). The scarcity or unavailability of executives who can focus on RL and can take the responsibility of reverse operations is one of the major hindrances in the successful implementation of RL process (Tompkins, 2010) (Rukavina in Walsh, 2007; Starkowsky in Andel, 2004). The unavailability of specialized information systems that handle could handle the peculiarities such as quantity and frequency of return is another obstacle (GARCIA, 2006; YANG et al, 2008). The absence of skilled professionals in the area of Reverse Logistics is also a major problem (AITA; RUPPENTHAL, 2008). The absence of an effective information system is also a major hindrance in implementation of RL (Zheng et al., 2005).

### **3. Research Methodology**

The research has been conducted on two food companies operating in Lahore. Both companies are dealing in different food items such as bakery items e.g. Biscuits, cakes, sandwiches etc. and liquid items such as milk and soft drinks. These two companies

were chosen because they have been working in the food sector for a long time and deal in same kind of food items i.e., confectionary. Furthermore, they hold a major share among companies that deal in food items in Lahore. Both companies are competitors with almost same type of items which can provide a good comparison between the Reverse Logistics practices of both companies.

The study uses an interpretivism paradigm in this study. Furthermore, the research strategy employed in this study is Qualitative. As this study explores the reason for absence of Reverse Logistics activities in Food industry, qualitative approach is considered to be the best for this purpose. Data is collected by observation and interaction with the participants. The techniques used are participant observation, in depth interviews, semi structured interviews and focus groups who were closely involved in the Return Process which included procurement manager, plant manager, supply chain manager, shipping manager, quality assurance manager. An interview guide was prepared from the literature to serve as a guideline to extract information from the participants

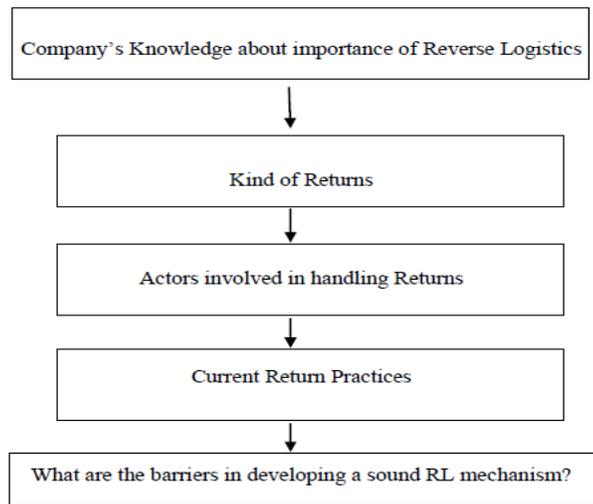
In the current study, inductive approach is being used. This study has also used case study as a means of gathering data. The target population for this research consists of Local Food companies which are operating in Pakistan. The non-probabilistic sampling technique used for this study is Purposive sampling.

The research uses cross- case synthesis. Moreover, the data is analyzed using NVIVO. It helped to create themes regarding the use of RL activities in Local Food Companies and the difficulties that companies face when implementing a RL process. The findings from both companies have been compared with the literature in the form of tables which helped to point out the similarities and differences between the previous studies and current study. The results of NVIVO also showed the differences in the RL practices of both companies and the barriers perceived by executives of both companies in the implementation of RL. Lastly, validity of this research is carried by triangulation and validity of this research is proved from the fact that the responses taken from the participants of each case company conform to each other. These interviews were taken at different times separately. Moreover, the personal observations could also serve as a method of providing the validity. The processes were in accordance with the findings from the interview. Furthermore, the findings from the semi structured interviews were also consistent with the literature on Reverse Logistics. The findings had internal consistency as three different people had the same views about the key research questions.

### **3.1. Conceptual Framework**

A review of literature has established the importance of reverse logistics in food industry. It is necessary for the food companies to engage themselves in RL process to gain the described benefits in terms of recycled products as well as to fulfill their responsibility towards the environment. The proposed framework below represents the way of exploring the current practices regarding RL in food Companies. It will identify the barriers that companies face while developing a RL mechanism. The proposed

framework starts by finding out that how much the companies are aware about Reverse Logistics which includes asking them about their understanding of Reverse Logistics. The next step is to ask them the kinds of returned items. The third step would be identifying the actors who are involved in handling the returns. The next step is asking them how they handle returns and how do they cope up with the waste food material and packaging waste currently. Next step would be asking them what the barriers in developing a RL mechanism are.



**Proposed Framework for exploring the adoption of reverse Logistics in food industry**

#### 4. Analysis and findings

The Executives of Company ABC were asked that what they know about the term Reverse Logistics. Two out of three executives were aware of the term and gave their perception about Reverse Logistics. One of them said that it is the process of bringing back the product to the premises of the producer due to some defect or problem. The other said that it is the management of Returns. The third executive didn't know about the term but he knew about the reversal process of things. He knew how the products were returned and what happens with them.

The Executives of Company XYZ didn't know about the term "Reverse Logistics". They knew what the return process was but they were not familiar with the term. They were performing the Returns process but were unaware that this is a major topic which needs to be focused on.

The Reverse Channel of Company ABC uses the same resources as the Forward Channel. The things which need to be returned are kept isolated in the outlets. The

Supply trucks which deliver fresh products to the outlets, take these products back on their way back to the factory.

Once the products have reached the factory, they are kept in a separate place and decisions are taken about the fate of these products.

Company XYZ has also the same reverse channel as of Company ABC. The product returns are placed separately in the shops. The supply truck takes back the returned items to the factory.

#### **4.1. Reverse Logistics process**

According to the definition of Reverse Logistics, the true purpose of Reverse Logistics is to efficiently reuse or recycle or use the returned products in the manufacturing of other products or properly disposing off the products. Due to increased awareness about reverse logistics, companies in the foreign countries acknowledge their responsibility of dealing with returns in an environment friendly way. There have been practices in which companies collect the waste created by their products and efficiently handle them either by recycling them or disposing them. Companies like Starbucks and McDonalds have initiated several projects of handling wastes. But there are lot of hindrances faced by the company in developing such a process that adequately handles the returns. Many companies which have thought of having a system of Reverse Logistics face a number of difficulties.

According to Stock and Mulki (2009) even If a company has some kind of executive for reverse logistics, it is not his main duty to focus on Reverse operations or it may be performing some other works other than reverse logistics. Sometimes the companies consider that returns are failures so management does not want to focus their attention towards RL (Rogers & Tibben-Lemke, 2001). For having a successful Reverse Logistics process, there is a need of departmental collaboration. But due to the lack of departmental coordination and effective communication, the benefits of RL cannot be gained (Lang in Hoffman, 2006; Rukavina in Walsh, 2007). Until and unless there is proper exchange of information among the departments and until all departments do not understand the importance and ultimate objectives of RL, Reverse Logistics cannot be utilized to gain advantages. Senior management should know about their current RL practices and should consider it in the strategic planning of the organization (Tompkins, 2010).

The executives of the companies under consideration were asked the reasons for not having an efficient RL system in our industries especially food industry. The executives gave 4 major reasons which according to them are the causes that do not allow a company to have a RL system. The 4 major reasons identified are Lack of finance, Lack of knowledge and expertise, Lack of governmental regulations and lack of management interest.

As for company ABC, when the executives were asked that according to them why companies do not involve in implementing a Reverse Logistics process. The major reason given by all three executives was the lack of knowledge or expertise. According to them, companies here do not have the slightest notion about how reverse logistics

can be beneficial for their companies. They do not know how to reuse or recycle the items and do not know how to properly dispose them off. The absence of experts is also included in this aspect. According to them there is a dearth of professional people who have the expertise in handling returns. There are no experts who can devise ways to deal with the returned products whether it be recycling/ reusing the returned items or disposing them off. According to them the biggest reason for not having a systematic reverse process is the scarcity of knowledge and personnel who have expertise in return. Another reason highlighted by the two people out of three is the Lack of finance. This is also in connection with the lack of expertise. When companies do not have the necessary resources to hire people who have the expertise in handling returns, this could lead to the absence of RL system. Finance is also required for the proper training of workforce who will actually handle the returns. So when companies do not have the money to invest in the development of an RL system, one could not efficiently handle returns.

Another issue indicated was the lack of management attention. According to them, the absence of a reverse Logistics system is due to negligence exercised by the management. Management does not consider returns as a beneficial thing. They do not want to go for the processes of recycling/reusing or properly disposing off the returned items and don't want any hassle. They do not consider the detrimental effects these returns could have if left unattended or benefits that can be provided by such a system. This negligence could also be linked to the lack of knowledge about Reverse Logistics. When companies do not have knowledge about any of the benefits of Reverse Logistics or the implications of not having one, they won't be inclined towards having a sound system of reusing/recycling or disposing off items properly and waste their energies unnecessarily.

Talking about company XYZ, the executives had different opinions about the hindrances in developing a RL system. Two persons out of three said that one of the barriers is lack of knowledge or expertise about Reverse Logistics. Mostly companies and people don't know about the benefits that companies could have by developing a proper system for recycle/reuse or by properly disposing off the returned products. They do not know how damaging these returned products could be for the environment as well as for the company itself. Two persons had the view that lack of regulations is the major barrier. When companies are not enforced to handle their returned items and take responsibility of the waste created by their products, companies will not take this Reverse Logistics System seriously. The absence of laws is one of the major reasons that companies do not take any step in dealing efficiently with returns. One person said that the lack of finance or resources is also a barrier. When a company does not have any resources for dealing with returns, a system cannot be developed. Everything requires some investment in terms of technical personnel, training of workers, and research about how to deal with different types of returns. Another person pointed out the inattention of management towards this aspect of regaining value and taking responsibility of dealing with returns, another reason for not having a RL process.

The NVIVO results of this query are as follows:

**Table 1:**Matrix Coding Query for Barriers to Reverse Logistics

|                                | Intervie<br>w 1<br>ABC | Intervie<br>w 2<br>ABC | Intervie<br>w 3<br>ABC | Intervie<br>w 4<br>XYZ | Intervie<br>w 5<br>XYZ | Intervie<br>w 6<br>XYZ |
|--------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Lack of Finance                | 0                      | 1                      | 1                      | 1                      | 0                      | 0                      |
| Lack of knowledge or expertise | 1                      | 1                      | 1                      | 1                      | 1                      | 1                      |
| Lack of regulations            | 0                      | 0                      | 0                      | 0                      | 1                      | 1                      |
| Lack of management interests   | 1                      | 1                      | 1                      | 0                      | 0                      | 1                      |

This is a result of a Matrix Coding query. The 0 and 1 here represents the absence and presence of a particular barrier in a particular interview.

It can be seen that all six interviews have “1” in the “Lack of knowledge” Row. This shows that six people had responses about Lack of Knowledge or Expertise as the major barrier in their responses. Thus, considering this to be the major barrier.

“Lack of finance” has three “1” in row. This shows that out of six people, three people had responses related to lack of finance and considered this to be another barrier.

Three out of six people had the view that “Lack of Management” interest is also the barrier.

Only two people said that “Lack of Regulations” is a barrier in development of a RL system.

Based on these responses, it can be said that the major barrier which restricts that development of RL system is the Lack of knowledge and expertise. After that ‘Lack of Finance’ and “Lack of Management Interest” is another barrier. The least given reason is the “Lack of Regulations”.

This model shows the different sources coded at the nodes of “Lack of finance” “Lack of Regulations” “Lack of expertise or knowledge” and “Lack of Management interest”. Since each source represents one interview, this model shows that who considered what to be the barrier. It can be seen that arrows from “Lack of regulations” is directing towards interview 5 and 6, which indicates that the interviewees 5 and 6 had responses towards Lack of Regulations as a barrier and hence considered Lack of regulations to be one of the barriers. “Lack of Management Interest” is indicating towards interview 2, 3 and 6, so these people considered this aspect to be one the barriers. “Lack of Management” is pointing towards interview 1,2,3,4 and 5 so this shows that these people considered this to be the reason for not having a RL system. The next section

represents the comparison of Barriers to RL between the previous studies and the case companies under study.

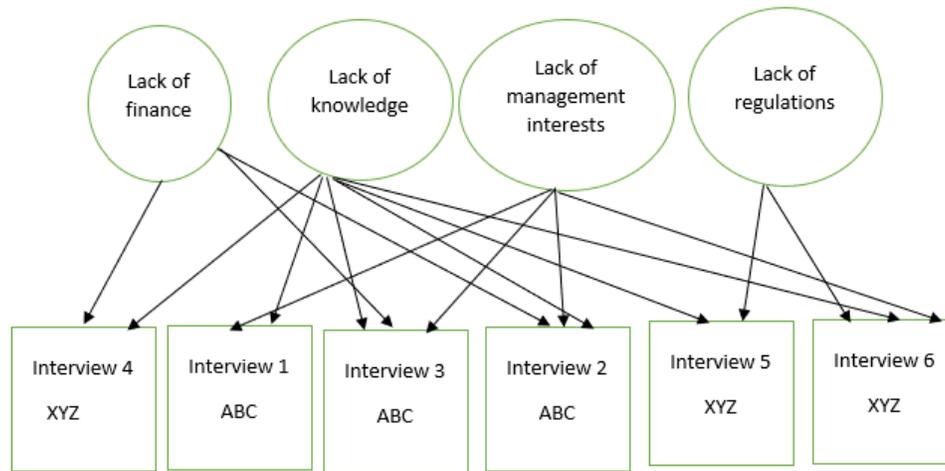


Figure 1: Source coding for barriers to reverse logistics

#### 4.1.1. Governmental Regulations

Since laws regulate a society, so the presence of laws is really necessary for the smooth flow of a system. One of the major factors we see about Reverse Logistics in the foreign countries is the presence of regulations that enforce companies to take responsibility of their actions and to own the responsibility of the waste that their products create. According to Martel; Vieira (2010) the laws for preserving the environment have become stricter due to which companies are considering to adopt Reverse Logistics. These laws also ensure that the activities of recycle/reuse should be done in a way so that less waste is created by their products and if a product cannot be recycled, the company should responsibly discard the waste product. An example of such a law is Waste Electrical and Electronic Equipment. Legislations such as Plastic beg Levy in Ireland have highlighted the importance of recycling or re use of plastic bags (Department of Environment Heritage and Local Government Ireland 2007). Such regulations have made it necessary that the manufacturers take the responsibility of collecting, treating and recycling and/or safe disposal of their products and the materials used in their manufacturing after their life ends (Lai and Wong, 2012; Zhang et al, 2011). In 2008, the EU packaging directive necessitated the recycling of 50 % metal, 22.5% plastics and 60% of glass beverage packaging. The EU Directive 94/62/EC is formulated to reduce the negative impacts on the environment by reducing plastic packaging waste and more efficient use of resources. Another Directive named as the Waste Framework Directive (WFD 2008/98/EC) was issued in November 2008 to reduce the usage of landfills. This included quantifying targets for waste material recycling from households and other places. A green paper was also published for the management of Bio waste. According to this directive, members of the EU were

required to prevent or reduce waste production and its harms, recovery of waste which includes recycling, reuse or using waste as a source of energy and as a final resort, a safe disposal (EC, 2008). The increase in the Greenhouse gas emissions and increased Global Warming have raised a lot of concerns. Due to these concerns, policy making is very much active in this regard. 15 members of the EU signed the KYOTO protocol under the United Nations Framework Convention on Climate Change and agreed to reduce on an average of 8% of its greenhouse gas emissions of 1990 in the period 2008-2012. Germany imposed a ban on landfilling of Organic waste in 1990 which has resulted in the lowest landfilling in the Whole Europe with a recycling rate of 87% as of now. Korean Government also imposed a ban on the landfilling of food waste in order to reduce leachate problems (Ministry of Environment, Korea). Since then food waste collecting and recycling centers have been promoted. As a result, food waste recycling facilities have increased. In countries that are developing, it is easy to find a regulating authority for handling electrical and electronic waste but little attention has been focused on plastic industry even though its adverse effects in the environment have been highlighted many times (Subramanian et al., 2014).

Similarly, in Pakistan, there are no laws present which prohibits the dumping of food waste in Landfills. Though independent companies like LWMC and OZ-Pak are working to reduce the municipal waste, but their recovery rates are very low.

The executives of both the companies were asked if they face any regulations by the government or any other agency to handle returns efficiently, make use of the returned material (recycling) and properly disposing them off. Majority of the participants had the same response. They said that they are not bounded by any such regulations. Government or any other agency has never asked to handle the returned items nor has provided any guidance about how to recycle or dispose them.

The table shown below represents that majority of the interviewees had the same response about Governmental Regulations. According to them, Government has never asked them to have a returns process and have not put any kind of charges on them if they do not handle returns in a way they should be handled. The table indicates the same thing. It can be seen that “1” is present in the “No Governmental Regulations” row, which indicates that out of six, five Interviewees said that they don’t face any such regulations. One of the interviewees didn’t give any response on it.

**Table 2:** Matrix coding for governmental regulations for RL

|                                 | Interview 1 | Interview 2 | Interview 3 | Interview 4 | Interview 5 | Interview 6 |
|---------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1: No Governmental regulations  | 1           | 1           | 0           | 1           | 1           | 1           |
| 2: Yes Governmental regulations | 0           | 0           | 0           | 0           | 0           | 0           |

The model shown in table 2 also validates the above discussion. It can be seen that all 5 sources are being coded at the no regulations node. This indicates that all the

interviewees have responded at the “NO Regulations” node. No source is coded at the “YES Governmental Regulations” Node. This indicates the fact that the all interviewees said that they didn’t face any regulations in regard of RL

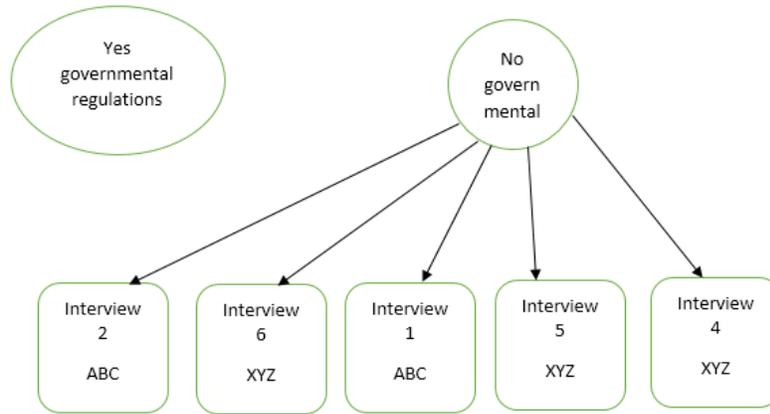


Figure 2: Source Coding for Governmental Regulations for RL

The executive of the companies was asked about their perception on the benefits of RL. Different people had different views on it. The NVIVO results are as follows:

Table 3: Matrix coding query for benefits of RL

|                           | Interview 1 | Interview 2 | Interview 3 | Interview 4 | Interview 5 | Interview 6 |
|---------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1 Cost efficiency         | 0           | 1           | 0           | 0           | 1           | 0           |
| 2 customer satisfaction   | 1           | 0           | 1           | 0           | 0           | 0           |
| 3 environmental cleaning  | 1           | 0           | 0           | 0           | 1           | 1           |
| 4 scrutiny of the process | 0           | 1           | 1           | 0           | 0           | 0           |

This table shows the responses of people about the benefits that RL can provide. Out of six people, two people had the view that it can help increase the cost efficiency of the company. They were of the view that processes like recycling, reusing returned material could lower the costs. The other benefit identified by two out of six people was the customer satisfaction. They said that when a customer knows that the company quickly

responds to the defected items and have a developed returns process, they are more inclined towards the company. They know that a company will not allow a defected item on the shelves and will remove it quickly. 3 people said that RL helps in the cleansing of environment. They said that when a company properly disposes of waste material responsibly and don't just throw them off, it helps to reduce the environmental pollution. Moreover, it helps in building a positive image of the company in the society. Two of the respondents said that this RL system can help to back track the original problems. When there is a proper system in place, the product moves back through a channel and the real problem is identified. It also lets us know how well the product is made. Basically, the data from the returns can help to identify the root cause of the problem and consequently could reduce the number of returns e.g. RL can help to know what the condition of an item is after a certain time or after passing through different conditions. It tells us that changes are needed to be done in the product. The Source coding for benefits of RL is given below:

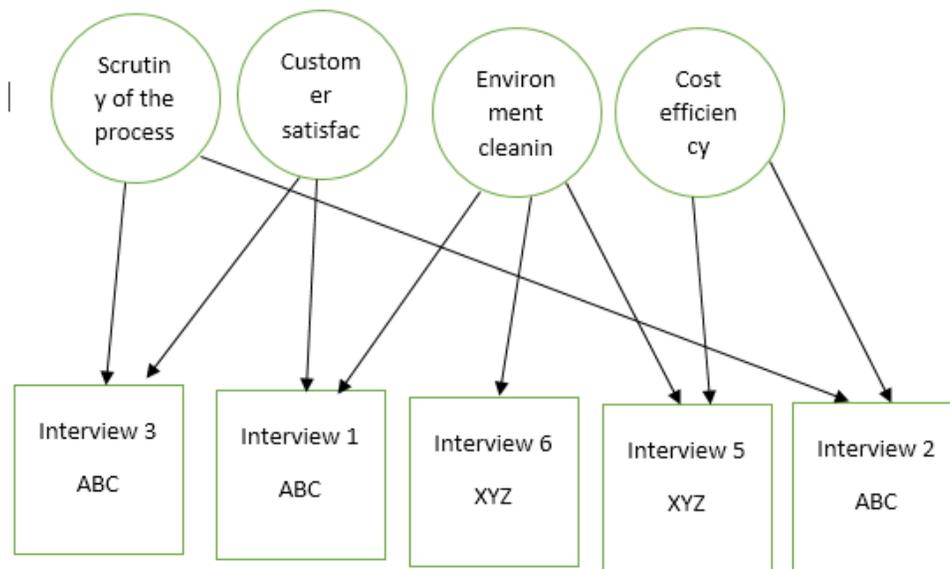


Figure 3: Source coding for benefits of RL

### Proposed framework for Reverse logistics

As it has been mentioned in the literature that Returns Management is very much important for a company to ensure sustainability, our local companies are less aware of it. For a sustainable and economically feasible RL model collaboration between companies, governments and others, top management commitment is necessary (Lozano, 2008; Nagarajan et al.2013). Local food companies in Pakistan are unaware of the importance of Reverse Logistics. This is mainly due to the fact that there is less awareness on this topic. Moreover, companies do not consider it as an essential part of

a sustainable supply chain. Companies are handling returns just for the sake of it. According to Cope (2007) the applicability of RL depends on how much the company is mature in terms of Reverse Logistics. According to Cope, there are five levels of maturity regarding RL. The first level is the innocence in which organizations have no knowledge about RL and do not perform RL activities at all. The second level is Understanding stage, in which organizations do have some knowledge about RL but are not performing RL activities efficiently. The third level is the Competence stage, in which organizations are able to execute RL activities quite successfully. The fourth level is the Development in which organizations try to gain excellence in RL activities and try to become a professional RL entity. The level five is the Excellence stage, in which the company becomes experts in RL. Referring to level of maturity given by Cope and based on the findings of this research, it can be concluded that the food companies under study are between stage one and stage two, which means that the companies are performing certain processes of RL but the process are poorly defined, proper guidelines are not present, no regard is given to the side effects of food and packaging waste and a further understanding of the process is required.

Based on the findings and literature review, the following model is being proposed, which can guide companies in the development and implementation of RL Process.

The model propose below comprises on two aspects. One is highlighting the importance of Reverse Logistics in Food Companies and the other is the way on how to implement Reverse Logistics in Food Companies.

Reverse Logistics should not be considered as an option but it should be considered as an essential part of the business process. Many a times companies consider RL to be an added self-burden while in reality it is a way to improve the business process. So before anything else, it should be find out what is the current state of knowledge about RL in the company. This could be done by asking the company executives about their concept of Reverse Logistics, how they are handling returns at the moment etc. If they know about RL then it is a good thing and one can go study the current practices and identify flaws in it and create solutions. If the company does not know about RL, first of all the companies should be made aware of what is RL and highlight its importance. This could be done by telling them how much adverse effects the waste created by their items can have on the environment. How much detrimental this waste could be for the environment as well as for their image. When a company does not fulfill its responsibility of dealing with the waste they have put forward, it gives a negative appearance of the company. People think that the company is not responsible enough as it does not take care for the environment or indirectly the company does not care for the consumers.

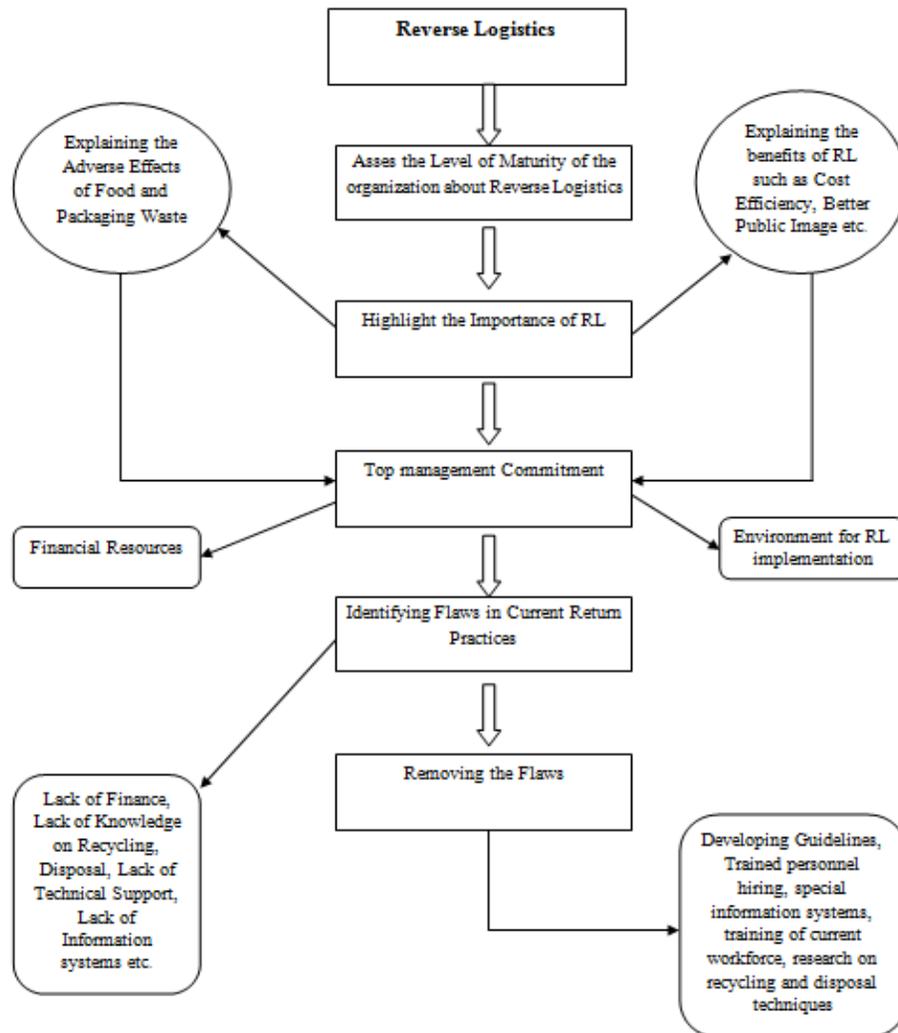


Figure 4: Framework for Highlighting the Importance and Implementation of RL

The next thing they should be made aware of is the financial gains that could be achieved through Reverse Logistics. The reuse or recycle of materials could result in a gain of value that would be otherwise lost if products are not recycled. The products could also be sold to secondary markets which is also a source of additional income. This could be done by educating them via seminars, lectures etc. this would lead to the change of the mindset of the organizations. They could be able to think RL to be a value-added activity rather than a burden.

After the importance of RL has been established, the next thing is the Implementation of Reverse Logistics. The first and foremost thing in this regard is the Top Management

Commitment. This means that the management should acknowledge the importance and necessity of Reverse Logistics in Food Companies. The pre-requisite for this is to properly establish the importance because if the management does not know the value of Reverse Operation, they won't be engaged towards its implementation.

Once the management has understood the need for efficient Reverse Operations, The next step would be studying the current return practices (if any), identifying the costs associated with returns, identifying the flaws in the current returns process which may include no proper information systems, poor forecasting of returns, lack of departmental collaboration, lack of strategic planning, no awareness of recycling/ reusing options, no knowledge about proper disposal, lack of finance, no trained personnel for handling returns etc.

After the flaws have been identified in the current practices, the next step would be creating solutions to mitigate those flaws. This may include, but not restricted to, hiring experts of RL, training current workforce in RL activities, reserving fund for further research about reusing/recycling returned products and proper disposal, development of specialized systems, developing policies and guidelines for RL, timely information sharing among all the stakeholders.

It is also necessary that Government should also consider the importance of not handling returns and their consequences. Government should make strict laws which enforce the companies to deal with returns efficiently and in an environment friendly way. Government should make sure that the returns are not left unattended. Laws should make sure that the returned products are recycled/reused or if needed properly disposed off. Government should develop, with the help of experts, proper guidelines for recycling/reusing food waste as well as packaging waste. Companies should be asked to present annual or semiannual reports of the products that are returned and how they have been catered. Government should run educational programs to make the companies aware of the dangers of not handling returns. Consumers can also play an important role in the efficient handling and dealing of product returns. With their proper support, products could easily be reused and can be properly disposed.

## **5. Conclusions**

This research focuses on the implementation of RL activities in two local food companies of Lahore. Reverse Logistics focuses on how the products are returned from the point of consumption to the point of origin with the aim of recapturing value by recycling/reusing or for the purpose of proper disposal. The study focuses on how food companies are handling returned items and what do these companies do with these items. Another aspect of this study is that what difficulties companies face while implementing Reverse Logistics process. Two local food companies were chosen to conduct the study. Both of the companies deal in same kind of items i.e., confectionary. Both of the companies use their forward logistics channels to bring the defected items back to the factory where they are treated.

The results of this study indicate that food companies are doing activities of RL in bits and pieces. No company has fully implemented the process of RL. The major reason is

the lack of knowledge that companies have about RL and the absence of experts in the field. Since Company A has well established systems, they are properly disposing off the food returns (waste) into animal feed and as raw materials for Bio gas plants and giving back the packaging material to the plastic recycling companies but they still do not have any kind of mechanisms to gather the food waste or packaging material waste that occurs at the consumers' end. The company XYZ is still growing, it lacks proper system. People there are remotely aware of the implications for not having a RL process. They are indulged in recycling of returned items to make new food products, but they are not giving any kind of importance to the food items that cannot be recycled. They are not properly disposing them off. Same is the case with the packaging material, it is also thrown away without finding any proper solution. They are not considering the hazards and problems these wastes could create for the environment. Moreover, they are letting go off a great opportunity of gaining financial benefits. This can be attributed to the inattention of management towards Reverse Logistics. Another problem that was identified was the lack of Finance to hire experts for Reverse Logistics. The absence of laws for efficiently dealing with returns can also be considered a reason for companies not proficiently handling returns.

Having said that, following are some of the recommendations that could help companies with respect to Reverse Logistics

For the food and packaging waste created at the producers end, vacuum systems such as Mini vac could be placed separately which are connected to tanks and waste dealers take these tanks away.

For food and packaging waste produced at the consumers end, companies could ask the customers to drop the food and packaging waste next time they visit the shop. At the shops, these tanks could also be used.

The concept of Extended Producer Responsibility should be coined and enforced, according to which the producer of a certain product should take the responsibility of dealing with it after the end of its lifecycle. The proper methods for handling waste and disposing it off should be clearly mentioned on the packaging, to educate the community.

To increase the awareness about waste management behaviors and environment friendly attitudes, educational and awareness programs regarding the effects of food and packaging waste should be organized. Special training programs for workforce should be initiated, where workers should be taught how to handle returns based on the type of specific industry. Models should be developed for the collection of waste from consumers' place which ensure safe recovery along with cost efficiency. Specialized collection centers should be developed, where consumers can drop off waste items without any hassle.

Consumer credit schemes should be started to give compensations to consumers for delivering waste products or packaging materials to specialized centers. Special legislations should be made which enforces the food companies to effectively recycle the returned food items and packaging material. Food Companies can form coalition with companies like OZ-Pak, LSWN and can help them collect waste. Food companies

in collaboration with these companies can arrange training for workers for proper segregating food waste from other types of waste and can provide innovative recycling options if possible. No food waste should be dumped off in the landfills rather it should be converted into feed for animals or plants.

This research can help companies operating in confectionary industry of Pakistan to monitor their processes and be aware of the challenges faced. Also, this research may be able to generalize some of the findings on its competitors however further research and analysis is needed so as to streamline processes and clear possible issues in the reverse logistics process.

## **6. Limitations and Future Research**

The research was limited to only two companies due to the lack of resources of information. Most of the companies were hesitant in becoming the part of the study. The companies did not want to share their information. Even the companies under study were very much discreet. They did not provide any kind of documentary evidence due to which only personal observations had to be used as a tool for validity. The companies did not tell the names of the waste collectors and recycling companies with whom the companies were dealing with. The only sources of information were the interviews and personal observations. Furthermore, not much data is available on food waste in Pakistan. No previous information regarding Reverse Logistics in Food Companies in Pakistan is present at the moment.

Quantitative studies should be carried out in the future to have a broader view of the status of Reverse Logistics in Food Companies not only in Lahore but in the whole country across different cities highlighting the problems that companies face while implementing Reverse Logistics. Studies regarding new methods for dealing with returns should also be conducted. An intensive study should be carried out with a focus on collection of food waste from the consumers' place.

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## Website Attributes, Customer Engagement and Retention: An Empirical Evidence from Local Pakistani Companies

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### Abstract:

Website attributes of an e-commerce website enhance its visual and responsive appeal for a website. To have a closer view and insight of the website attributes, we investigated that how different website attributes such as aesthetic, affective, functional and symbolic affect the customer engagement and retention. We compared furniture and airline sector specifically four companies; Interwood & Habitt, PIA & Serene Air websites and its effect of customer's engagement and retention. Data was collected from 400 respondents through survey method. Website of each company was shown and then they were asked to evaluate these websites in terms of their aesthetic, affective, functional and symbolic appeal. All the relationships in this research were significant except a few. Affective attributes of Habitt, PIA, Serene website do not engage customers while aesthetic properties of Habitt and Serene Airlines do not retain customers. Also, affective properties have the most significant relationship with customer retention for all the customers of each company. Overall, results added useful insight into the literature on E-commerce and Marketing.

**Keywords:** *Customer engagement; Customer retention; Aesthetic; Symbolic; Functional; Affective*

**JEL Classification:** M10

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### 1. Introduction

E-commerce has become an emerging trend in today's modern world. With the passage of time, many small brick and mortar firms are also moving towards E-commerce. Retailers are now realizing that it is very important for them to represent themselves online in order to grab more customers. Customer engagement has turned out to be a prominent and rising concept in the relationship marketing because of its influence on brand performance (Brodie, Hollebeek, Juric and Ilic 2011), customer relationship (Vivek, Beatty and Morgan 2012) and loyalty (Bowden, 2009; Hollebeek, 2011).

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Brakus, Schmitt and Zarantonello (2009) and Verhoef, Reinartz and Krafft (2010) stated that, other than being faithful, a client that is totally engaged is expected to play a significant part in development of new services and products and in creating more value and experiences.

According to Wilson (1995), customer retention indicates a strong dedication between the customer and the firm both to keep up the long-term relationship. The formation of shared promise is the same practice as constructing a long-term strong relationship between seller and buyer.

The main problem takes place when we need to move a customer on website or convince them for online shopping. A standout amongst the most vital issue why the buyer does not move online is the absence of trust between the most organizations and the customer on the internet. Generally, buyers essentially do not put their trust on most of the websites providers to involve in a customer-buyer relationship. Purchasing on the Internet exhibits various risks for buyers, especially when the transaction procedure itself being seen as risky. According to Einwiller, Geissler and Will (2000); Einwiller and Will, (2001), purchasing on the internet contain many risks for customers, in addition to, the transaction period itself being considered as risky. Trust is one successful alternate way. Trust can work, as important factor in decreasing complexity of human mind in the kind of circumstances when people have doubts. While making an online order customer should have enough information but they do not have accurate information about the quality of product. In customary business sites, shoppers might assess the nature of goods by feeling, touching and looking them. Yet one cannot use one of these traditional ways to examine a product while shopping online, that is why uncertainty of the product can become an important aspect in customer's decision of purchasing online, which depends on the level of insufficient information about the product. This factor of uncertainty is being viewed as a prime obstacle for an online transaction also, an inseparable factor in understanding trust (Gefen, Benbasat, and Pavlou, 2008).

The organizations working on the internet are concerned about how the item is being shown on the site to the clients who visit them (Burke 2002). To present information about the product, most of the E-commerce organizations use text and pictures. (Lightner and Eastman 2002). Pictures and content on the site play an important role on whether the buyer would be attracted towards your site or not. According to Garrett 2003, Website's visual design can possibly contribute to emotional appeal or hedonistic for customers, and Rosen and Purinton, (2004) identified that visual design can be stated through images or colors.

Purchasing online creates a lot of uncertainty for customers as well as for firms because of lack of trust. It is therefore, important to identify which factors of website engage customers to visit the website and factors, which retains the customer, as it is difficult to engage customer online on websites when they have many options to choose from and have very limited time. The purpose of our research is to study or examine the factors or the attributes that increase customer's engagement as well as increase

customer's retention. This study will examine whether Aesthetics properties, Symbolic Properties, Functional properties and Affective properties will affect the customer retention and customer engagement.

## **2. Literature Review and Hypotheses Development**

### **2.1 Customer Engagement**

The phenomena of engagement have been determined over the years under numerous situations, such as brands (Spratt, 2009), school and education (London, 2007), public policies (Gregory, 2007) and organizations (Saks 2006; Salanova 2005). Customer engagement is a promise between the customer and the product or services (Mohd-Ramly & Omar 2017). Marketing practitioners mostly tend to emphasize on behavioral actions of customer engagement. For example, Petterson (2006) stated that engagement category includes subscription, recentness (number of return visits in a short time), click depth (content clicked on), duration (per session time), interactivity (movements engage in downloading content, go to an audio/video cast and posting) and loyalty (number of return visits in a long time).

As a small medium business, a website is a chance for a company to make a major worthy impression on potential leads and carry out present customers, because a website is a first place where customers will go and find their needs in terms of products or services. If a company wants to achieve this, it is necessary to engage them by making your website interesting and unique. Many companies are now aware of the thing that they need to make their website engaging, but usually smaller companies do not make a website or they do not have enough time and capitals to improve their website with new, interesting, unique or fresh content. Furthermore, social media can be a great medium for promotion and enhancement of a website content (Business news daily, 2014).

### **2.2 Customer Retention**

Customer Retention is defined as loyalty to continue to do business with a particular company on regular basis (Zineldin 2000). Customer retention refers to the level that a website should be able to attract current or existing customers of the website and to create re-purchase intentions in the future (Reichheld & Schefter, 2000). Retention is another aspect for commitment, which is decided by both negative and positive motives just like shifting barriers (Ranaweera & Prabhu, 2003). The customer retention highlights the significance of purchase experience for keeping the current customer over the new ones. Since online sellers have improved their service quality, value delivery has also been improved; moreover, direct links have been created with the customer that causes excellent customer retention (Reichheld & Schefter, 2000; Sisodia & Wolfe, 2000).

### **2.3 Rhetoric Theory**

Rhetoric in literal terms mean the art of persuasion. Basically, discovering all the methods through which one can persuade its audience (Edward, & Robert 1971). Rhetoric involves four types; Pathos, Kairos, Telos, Ethos and Logos. Pathos is the persuasion through emotion towards a product or brand. Kairos is using the right moment through creating the message at the right place and right time for customers. Telos is knowing the purpose of marketing and what to achieve through it. Ethos is building trust and credibility among the customers in order to persuade them. Last, Logos is persuasion through logic and reasoning (Carnegie, 2019).

This study has used the rhetoric theory to explain the relationship between website attributes and customer retention and engagement.

### **2.4 Aesthetics Properties**

Nowadays, when technological advancement is at its peak, people do not take into consideration financial and technical components of a website. People simply anticipate it to work. The technology is considered as a foundation for aesthetic studies (Thorlacius, 2007). According to Ida Engholm (2003), the debate on aesthetics and functional properties of a Website design is quite similar to the shift in layout during the growth of consumption in the post war period. It was the time when a large number of the items that were advertised or showcased – from bikes to electrical machine – barely differed from one another by little alteration of the fundamental ideas. All of the issues related to technicality and functionality were actually resolved; it was anticipated by the people that product worked most advanced (at that time) technology were used. Later on, people became interested in distinctiveness of the product by means of aesthetic and picture related signs (Engholm, 2003). The aesthetic properties of a website have the power to demonstrate the image of the person working behind the site or the organization (Thorlacius, 2007).

According to Tarasewich (2003), a customer's enjoyable experience with the website depends upon the aesthetics attributes of the website. Karvonen (2000) suggested that a number of studies have proposed an association between attractiveness and trust of the websites. Pictures can build trust among consumers regarding their sellers. For example, Tiffany (a jewelry retailer) invested a heavy amount for digital imaging in order to make sure, that pictures of all her items are clearly visible on her website just to build trust among consumers (Srinivasan, 2002).

With regards to web-based shopping, web searching, instructive webcasting and computer games, O'Brian and Toms (2008) relate aesthetics to variables, like screen format, illustrations and the use of layout concepts, for example, consistency, balance and symmetry. About sight and sound outline, Jennings (2000) relates aesthetics to positive effect and proposes that aesthetics increase consumer attentiveness and empower interest. Tractinsky, Katz, and Ikar (2000) showed the importance of aesthetics who, during an experiment found out that, aesthetic appeals are positively related with ease of use.

## **2.5 Aesthetics Properties and Customer Engagement**

For an e-commerce website, visual design plays a significant role as it enhances the aesthetic properties of the website and target consumers through emotional appeal (Garrett 2003; Liu, Arnett, Capella, and Taylor 2001; Park, Lennon, and Stoel 2005). These attributes may prompt favorable attitudes towards the website (Fiore, 2005).

Aesthetic properties of a website play an important role in building the trust among consumers as a strong design can easily gain the attention of customers (Agarwal & Venkatesh, 2002; Cyr, Kindra, & dash, 2008). Cyr, Head, Larios, and Pan (2009) recommend that the visual attraction of an e-commerce website is important because it boosts customer's emotional appeal and exhilaration, which can positively affect the consumer level of engagement with the website. The website design aesthetics are associated to the pleasurable customer involvement (Tarasewich, 2003). Aesthetic properties are seen as a critical element for engagement as they are associated with the sensory and visual appeals of an interface (O'Brian & Toms 2010). This leads to our first hypothesis;

*H1: There is a significant relationship between aesthetic properties and customer engagement*

## **2.6 Aesthetic Properties and Customer Retention**

The ability of a traditional store to satisfy customers' expectancies through careful layout of social and aesthetic factors is analogous to a website's potential to acquire and keep online customers through cautiously-designed display and interfaces of the website (Eroglu, Machleit, and Davis 2001; Rosen & Purinton, 2004). Website design attributes play a key function in developing consumers' preliminary beliefs and subsequent purchasing behaviors (Cheung, Chan, & Limayen, 2005; Karimov, Brengman, and Van Hove 2011; Wells, Valacich, and Hess 2011). Our second hypothesis is;

*H2: There is a significant relationship between aesthetic properties and customer retention*

## **2.7 Symbolic Properties**

A symbol is an indication or a sign that is perceived, or is assumed as representing an object, relationship or idea (Wikipedia). Symbols include images, animations, photos (human faces), and words and symbolism refer to the actual meaning of these symbols (Cyr, Head, Larios, & Pan, 2009). According to a survey of websites of the world's top educational institutions followed by a content analysis that was conducted in June and July 2007, the study shows that photos play a significant role, with most of the websites representing one image or photo (Vilnai-Yavetz, & Tifferet, 2009).

Companies are faced with the issue of standardization of websites (almost all websites have the same items and sometimes have the same look). Along with this problem, they have to differentiate themselves from their competitors; some companies have tried to support the symbolic aspect of their websites (Cheung and Lee, 2005). The multiplicity of websites created the difficulty of customer satisfaction, certain companies investigated other aspects besides quality of the website to understand and improve the symbolic aspects of the websites. By endowing it with a personality. This allows companies to have more long-lasting relationship with customer by creating a unique experience on the website capable of satisfying them (Akrimi, & Khemakhem, 2014).

### **2.8. Symbolic Properties and Customer Engagement**

According to Vilnai-Yavetz and Tifferet's (2009), it is highly suggested to use photos and images in a website, in order to form a purchase behavior and future purchase intentions and to create a positive. Moreover, the findings demonstrate that usage of photos and images have a positive effect on customer engagement. In a research conducted by Cyr, Head, Larios and Pan (2009), viewers reacted to human images, with features in a positive way from several countries. Positive emotions are generated through these images (affective properties). A human level can be added by including these pictures. A no-human image condition can lead to a negative impact on the website. Members from different countries think the website is not user friendly if they found no images. Our third hypothesis is;

*H3: There is a significant relationship between Symbolic properties and Customer engagement*

### **2.9 Symbolic Properties and Customer Retention**

Apart from images and general presentation, website can use distinct characteristics to enhance the customer retention (Srinivasan, Anderson, & Ponnayolu, 2002). Symbols might create associations to make a positive impact on the shopper's perception. It was proposed that pictures and images of people and building do not affect the beauty of website and customer satisfaction as much as abstract symbols (Vilnai-Yavetz & Tifferet 2009). Pictures of people are claimed to have a major role in symbolism. It creates an essence of authenticity (Riegelsberger & Sasse 2001) by communicating trust (Egger, 2001). By symbolism, photos give messages of assurance and reliability (Egger, 2001). Fourth Hypothesis is;

*H4: There is a significant relationship between Symbolic properties and Customer retention*

## 2.10 Functional Properties

Most of the researchers have recognized that there is an association between website quality and user acceptance in a website context. Many researchers stated that website quality had been effective for customer usefulness and ease of use. User can get high security, immediate reply and feel more convenient when the security is high (Ahn, Ryu, & Han, 2007). Lederer, (2000) and Liao and Cheung (2001) recognized that website perceived ease of use and usefulness had an effective influence because of these potential systems. Koufaris (2002) researchers have identified that shopping experience could be more satisfying and pleasant if they also give value added search mechanism. Website usability can be explained in the following situations (Flavia'n, Guinali'u, and Gurrea 2006). (a) Website structure, its functions, interface and contents should be ease for customer understanding (b) Initial stages of website should be clear and simple (c) Quick search engine for users (d) For getting the desired results time and actions required for the perceived site navigation (Belanche, Casaló & Guinalfú, 2012). (e) Potential to check the customer movement anytime, where they are and what they are doing, the ease issues may influence customer perception and behavior while using website (Belanche, Casaló & Guinalfú 2012). Online purchasing should be easy and simple to attract customer (Bridges and Florsheim, 2008). Website reviews can help customer trusting in online purchasing. When customers use the Website, they should feel ease of use and can trust through website design that it can be successfully handled during online transactions (Schlosser, White, and Lloyd 2006).

## 2.11 Functional Properties and Customer Engagement

Customer decision-making and purchasing tasks can be increased if they feel ease of use while using the website (Lin, 2007). The intention to use a website influences both usefulness and ease of use significantly (Smith, 2008). Nowadays consumers expect online applications to not only be functional but engaging as well. Consumer's decision to use a technology is based on how it makes them feel. Hence, it does not matter that much if the website is effective or efficient as long as it is able to engage consumers (Bannon, 2005). According to O'brien and Tom (2010), variables that influence consumer engagement with online websites are usability and interactivity. Consumer engagement was considered as an aspect of usability (quesenbery, 2003). O'brien (2011), conducted a scenario-based research where participants were given a task to surf websites. Throughout the task, usability has found to be consistently influence participant's engagement with the websites. One respondent told that absence of ads helped her to be more focused and engaged with the website. Other participants gave a positive response about the ease of use of the website. One more participant, in regards with ease of use responded positively and told that the menu button was consistently on the page, which helped him to navigate website easily. Our fifth hypothesis is;

***H5: There is a significant relationship between Functional properties and Customer engagement***

### **2.12 Functional Properties and Customer Retention**

When customer will find ease while using website it will not only enhance customer satisfaction but will also increase future purchasing intentions. Flavia'n, Guinali'u, and Gurrea (2006) also found that when customer find ease while using the website it would also help to retain customer. Furthermore, Abdeldayem (2010) found out that ease of use influences the attitude towards online shopping. Ease of use realize to customer that company due respect, care and understand the needs of them (Egger, 2001). Hackbarth, Grover, and Mun (2003) suggested a relation between system experience and ease of use and found it positive between two theories. Therefore, the sixth hypothesis is;

*H6: There is a significant relationship between Functional properties and Customer retention*

### **2.13 Affective Properties**

According to Cyr, Head, Larios, and Pan, (2009) affective properties refers to design elements with feeling inciting qualities. Trust represents and aims to show eagerness to make oneself liable to another in the existence of uncertainty (Kim, Ferrin, Cooper, and Dirks 2004). The thing, which differentiates trusting intentions from other types of behavioral intentions, is that they involve uncertainty. As redirecting in the first reference, buying online includes uncertainty, particularly when one wants to be familiar with online firm. Specifically, the buyer must be ready to convey the personal belongings (e.g., credit card and personal information) to the online firm, which might cost them. For example, between the real and perceived risk are that the firm might overprice, may fail to transport the product, transport a low standard product, or fails to keep personal information. Online purchase intentions reflect trust to the extent that consumers are concerned about these and other risks of buying online.

During the time of repurchase, consumer decides and decides which is based on the previous consumptions and buying behavior of a consumer (Johnson, et al, 2001). The consumers who are loyal and satisfied demonstrate a better purpose to use a company's products, they have positive intentions to repurchase a product and hardly go for an alternative distributor (Oliver, 1999; Kim, Jin, and Swinney 2009). Therefore, it is being predicted that once a consumer succeeds a specific level of satisfaction with the use of previous website, the experience of the customer will affect towards a positive intention. The satisfaction of a consumer is measured when consumer believes that a right decision has been taken, and would recommend the goods and services to other consumers (Hellier, Geursen, Carr & Rickard 2003).

### **2.14 Affective Properties and Customer Engagement**

According to Bowden (2009), customer engagement leads to customer loyalty while forming customer satisfaction and trust. Customer's loyalty towards their vendor depends upon the level of satisfaction acquired by the service. When expectations of the consumers are met they are more likely to be committed and engaged (Hennig-

Thurau, Gwinner, Walsh, and Gremler, 2004). It is very difficult to engage and convince the customer to purchase online, as media is the only mode, which can create satisfaction in the mind of customers. Past studies mention the effect of website design on online shopping, which is an important factor to the consumers as good quality and low prices (Koufaris, 2002). Our seventh hypothesis is;

**H7:** *There is a significant relationship between Affective properties and Customer Engagement*

### 2.15 Affective Properties and Customer Retention

Many scholars identified the importance of satisfaction and trust by studying their impact on customer retention. It has been proposed that the level of customer satisfaction is a predictor of customer retention. The level of customer retention will be greater if customers are highly satisfied. That is why companies try their best to satisfy their customers. However, satisfaction is just one element, and alone it cannot ensure customer retention. Furthermore, a number of researchers debated that trust is a better factor of retention than satisfaction. The basic purpose of the companies is to completely satisfy its customers as best as 100 percent. The authors believe that recognizing the substitutes of retaining buyers over making long-term relationships is strongly useful (Ranaweera & Prabhu 2003). The final hypothesis is;

**H8:** *There is a significant relationship between Affective properties and Customer retention*

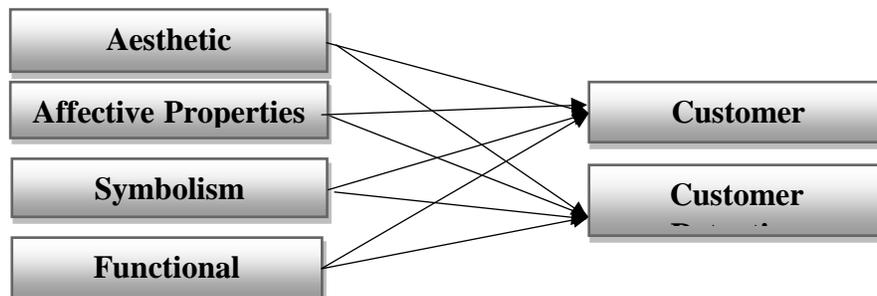


Figure 1. Research Model

### 3. Research Methods

In social science research, quite a few techniques are available to analyze quantitative data; factor analysis, linear regression, discriminant analysis, multiple linear regression, etc. However, if one intends to analyze the cause and effect between various independent and dependent variables then Structural Equation Modelling (SEM) is most suited. Also, if the researcher wishes to understand the significance of each measurement item, then also SEM is most suited. It is a useful tool to test conceptual

models and theories empirically. It is the second generation of multivariate statistical analysis which combines various techniques of the first generation of multivariate analysis, like factor analysis and regression analysis (Hair, Ringle, & Sarstedt, 2011; Hair, Sarstedt, Pieper, & Ringle, 2012; Lowry & Gaskin, 2014). Therefore, in this study, SEM has been used which tests the relationship of aesthetic, symbolism, affective and functional properties of website on customer engagement and customer retention.

This study has used the rhetoric theory to explain the relationship between website attributes and customer retention and engagement. Particularly; Pathos, Ethos and Logos have been used from the Rhetoric Theory. Pathos have been applied using the Aesthetic and Symbolic appeal (Emotions and Pleasure) while Ethos has been applied through Affective appeal (Trust and Credibility) and Logos have been applied through the Functional Appeal of the website (Rationality and logic). It is important in consumer marketing to use Pathos, Ethos and Logos to appeal to the target audience in such a way that they become your life long customers. Thus, emotional assurance, trust and credibility along with logic can create an impact on the minds of consumers. Therefore, this research will extend the rhetoric theory empirically and identify which type is most significant in consumer marketing research.

### **3.1 Sampling Design**

The target population in our study are online shoppers; specifically, students of different universities of Karachi. We have chosen furniture and airline sector specifically 4 companies; Interwood and Habitt, and PIA and Serene Air. We have chosen 400 sample of respondents from all the universities, specifically 100 respondents from each university; IQRA University, IOBM, IBA and MAJU. The data is collected from students of these universities in order to better understand the model being tested. We have chosen convenience-sampling technique. This is because the students are more engaging towards online shopping. The tools used for the collection of the data include questionnaire. All the scales used a 5-point Likert scale ranging from 1=strongly disagree to 5=strongly agree.

### **3.2 Materials and Measures**

Aesthetic Properties were measured using aesthetic scale from a standardized questionnaire called “NLR web scan” from Nord light Research, 2008 which had 7 items. Sample item include; “The website seems clearly arranged and not cluttered”. Functional Properties were measured using 7 items scale by Thielsch (2008). Sample item include; “In this website, everything is easy to understand”. Affective Properties were measured by combining two scales i.e. trust scale by Finn (2011) and satisfaction scale by Kim, Ferron, and Rao (2009). Trust scale had 4 four items; Sample item include; “This website is trustworthy”. Satisfaction scale had 3 items; Sample item include; “This website was satisfying to me”.

For Symbolic Properties, we created a scale that was comprised of 3 items. Items are; “The images or photos used in this website are entertaining”; “Digital images on this website are appealing to me.” and “Animations in this website are attractive”. The reliability of the scale was tested for before collecting actual data using SPSS. The Cronbach’s Alpha for the sample of 30 respondents turned out to be 0.63.

Customer engagement variable was assessed using a 12 item User Engagement Scale by O’Brien, Cairns, and Hall, (2018). The scale is actually a modified version of 31-items scale developed by O’Brien and Toms (2010). Sample item include; “I lost myself in this experience”. Customer Retention was measured using a scale developed by Zeithaml et al. (1996), The scale had 4 items. Sample item include; “My next product purchase will take place from this website”.

#### 4. Results

Below table 1 represents the gender, age and education of our respondents. Our total sample size was of 400 respondents (N=400) out of which greater proportion was of males, most of our respondents were youngsters which can be clearly seen in the table, and more than half were undergraduates while only 2 of our respondents were doctorate.

**Table 1: Demographics**

| Variable             | Frequency | Percentage |
|----------------------|-----------|------------|
| <b>GENDER</b>        |           |            |
| MALE                 | 265       | 66.2%      |
| FEMALE               | 135       | 33.8%      |
| <b>AGE</b>           |           |            |
| LESS THAN 21         | 71        | 18%        |
| 21-30                | 299       | 74.8%      |
| 31- 40               | 25        | 6.3%       |
| 41-50                | 4         | 1.0%       |
| Above 50             | 1         | 0.3%       |
| <b>EDUCATION</b>     |           |            |
| Intermediate/A level | 36        | 9.00%      |
| Undergraduate        | 230       | 57.50%     |
| Graduate             | 132       | 33.00%     |
| Doctorate            | 2         | 0.50%      |

N= 400

Table 2 represents the mean, standard deviations, reliability and Inter-correlations between 6 variables in the data. The table below shows that all the variables are significantly correlated with each other, and none of the variable shows insignificant relation. The reliabilities of aesthetic properties and symbolic properties were average

however, the reliabilities of affective properties, functional properties, customer engagement and customer retention were excellent. Aesthetic Properties have a mean value of 3.729 with a deviation of 0.2049. Affective Properties have a mean value of 3.603 with a deviation of 0.1183. Functional Properties have a mean value of 3.82 with a deviation of 0.1789. Symbolic Properties have a mean value of 3.514 with a deviation of 0.0447. Customer Engagement have a mean value of 3.387 with a deviation of 0.3701 and Customer Retention have a mean value of 3.188 with a deviation of 0.1924. Inter-Correlations have been used to get an idea of whether there is a significant relationship among variables or not. It never is clear, however, until regression analysis is carried out.

**Table 2:** Descriptive Statistics: Mean, SD, CR and Inter-correlations

|   | Variables             | Mean  | SD     | CR     | 1     | 2     | 3     | 4     | 5     | 6 |
|---|-----------------------|-------|--------|--------|-------|-------|-------|-------|-------|---|
| 1 | Aesthetic Properties  | 3.729 | 0.2049 | 0.6390 |       |       |       |       |       |   |
| 2 | Affective Properties  | 3.603 | 0.1183 | 0.7850 | .505* |       |       |       |       |   |
| 3 | Functional Properties | 3.82  | 0.1789 | 0.8050 | .486* | .575* |       |       |       |   |
| 4 | Symbolic Properties   | 3.514 | 0.0447 | 0.6260 | .330* | .318* | .347* |       |       |   |
| 5 | Customer Engagement   | 3.387 | 0.3701 | 0.7620 | .429* | .585* | .481* | .428* |       |   |
| 6 | Customer Retention    | 3.188 | 0.1924 | 0.8150 | .282* | .509* | .396* | .298* | .566* | - |

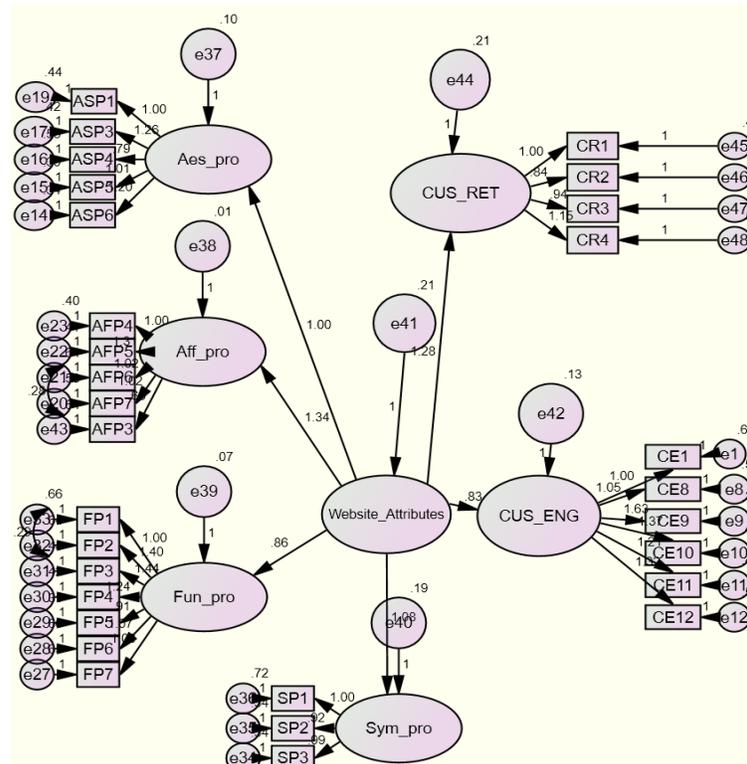
#### 4.1 Validation of the Model

Table 3 shows the point estimates, standard error and sig-value at 95% Confidence Interval for the direct effects of the hypotheses across four companies; Habitt, Interwood, PIA and Serene. Figure 2 shows the Structural Equation Model for PIA’s Website. Similarly, 100 respondents each evaluated Serene’s; Habitt’s and Interwood’s website, therefore, a total Of 400.

Amongst all the results, most were significant except a few. Affective properties showed an insignificant relationship with Customer Engagement with regression estimate of -0.228 and p value 0.108 (must be  $p < 0.05$ ) (Habitt). Aesthetic properties have an insignificant relationship with Customer Retention with an estimate of 0.22 and p value 0.115 greater than 0.05, (Habitt). Symbolic properties with Customer Engagement was also insignificant with regression estimate of 1.074 (Habitt) with p value 0.003. Even though the p value is less than 0.05, but the regression weight of greater than 1 is spurious (artificial correlation) because the of the small sample size (100 for each website) (Kronmal, 1993).

Aesthetic properties have an estimate of 2.824 with p value 0.331 (must be  $p < 0.05$ ) thus shows an insignificant relationship with Customer Engagement (Interwood). Affective properties showed an insignificant relationship with Customer Engagement with regression estimate of 1.069 and p value 0.000 (PIA). Again, the p value is less than 0.05 but this is an artificial relationship as the estimate is greater than 1 (Kronmal, 1993).

Lastly, Affective properties showed an insignificant relationship with Customer Engagement with regression estimate of 1.33 and p value 0.000 and Aesthetic properties shows an insignificant relationship with Customer Retention and have an estimate of 1.428 with p value 0.292 (Serene). Most of the insignificant relationships are due to spuriousness of variables (Kronmal, 1993).



**Figure 2.** Structural Equation Model (PIA)

**Table 3:** Direct Effect of Independent variables on Dependent variables

|                      |                         | Estimate | SE      | P           | Status        |
|----------------------|-------------------------|----------|---------|-------------|---------------|
| <b>Habitt</b>        | Aesthetic → Engagement  | -0.665   | 0.294   | 0.026*      | Significant   |
|                      | Affective → Engagement  | -0.228   | 0.142   | 0.108       | Insignificant |
|                      | Functional Engagement → | 0.646    | 0.152   | 0.000**     | Significant   |
|                      | Symbolic → Engagement   | 1.074    | 0.359   | 0.003       | Insignificant |
|                      | Aesthetic → Retention   | 0.22     | 0.14    | 0.115       | Insignificant |
|                      | Affective → Retention   | 0.665    | 0.187   | 0.000**     | Significant   |
|                      | Functional → Retention  | 0.401    | 0.138   | 0.004**     | Significant   |
| Symbolic → Retention | 0.44                    | 0.177    | 0.013*  | Significant |               |
| <b>Interwood</b>     | Aesthetic → Engagement  | 2.824    | 2.907   | 0.331       | Insignificant |
|                      | Affective → Engagement  | 0.565    | 0.167   | 0.000**     | Significant   |
|                      | Functional Engagement → | 0.407    | 0.206   | 0.048*      | Significant   |
|                      | Symbolic → Engagement   | 0.494    | 0.155   | 0.001**     | Significant   |
|                      | Aesthetic → Retention   | 0.419    | 0.163   | 0.01**      | Significant   |
|                      | Affective → Retention   | 0.587    | 0.191   | 0.002**     | Significant   |
|                      | Functional → Retention  | 0.288    | 0.112   | 0.01*       | Significant   |
| Symbolic → Retention | 0.539                   | 0.201    | 0.007** | Significant |               |
| <b>PIA</b>           | Aesthetic → Engagement  | 0.63     | 0.189   | 0.000**     | Significant   |
|                      | Affective → Engagement  | 1.069    | 0.226   | 0.000       | Insignificant |
|                      | Functional Engagement → | 0.458    | 0.164   | 0.005**     | Significant   |
|                      | Symbolic → Engagement   | 0.496    | 0.161   | 0.002**     | Significant   |
|                      | Aesthetic → Retention   | 0.613    | 0.182   | 0.000**     | Significant   |
|                      | Affective → Retention   | 0.94     | 0.186   | 0.000**     | Significant   |
|                      | Functional → Retention  | 0.832    | 0.226   | 0.000**     | Significant   |
| Symbolic → Retention | 0.71                    | 0.236    | 0.003** | Significant |               |
| <b>Serene Air</b>    | Aesthetic → Engagement  | 0.451    | 0.164   | 0.006**     | Significant   |
|                      | Affective → Engagement  | 1.33     | 0.293   | 0.000       | Insignificant |
|                      | Functional Engagement → | 0.393    | 0.198   | 0.048*      | Significant   |
|                      | Symbolic → Engagement   | 0.494    | 0.155   | 0.001**     | Significant   |
|                      | Aesthetic → Retention   | 1.428    | 1.354   | 0.292       | Insignificant |
|                      | Affective → Retention   | 0.523    | 0.184   | 0.004**     | Significant   |
|                      | Functional → Retention  | 0.313    | 0.122   | 0.001**     | Significant   |
| Symbolic → Retention | 0.539                   | 0.201    | 0.007** | Significant |               |

P<0.01\*\*, P<0.05\*, N=400

**Table 4:** Summated Results of Website Attributes and Customer Retention

| Customer Retention           | B      | Std. Error | Sig. (2-tailed) | Lower | Upper |
|------------------------------|--------|------------|-----------------|-------|-------|
| (Constant)                   | 0.174  | 0.280      | 0.582           | -.328 | .687  |
| <i>Aesthetic Properties</i>  | -0.050 | 0.073      | 0.527           | -.185 | .117  |
| <i>Affective Properties</i>  | 0.557  | 0.075      | 0.005           | .399  | .693  |
| <i>Functional Properties</i> | 0.183  | 0.087      | 0.060           | -.009 | .377  |
| <i>Symbolic Properties</i>   | 0.141  | 0.050      | 0.005           | .038  | .234  |

$R = 0.538$ ,  $R^2 = 0.290$ ,  $Adjusted R^2 = 0.282$

**Table 5:** Summated Results of Website Attributes and Customer Engagement

| Customer Engagement          | B     | Std. Error | Sig. (2-tailed) | Lower | Upper |
|------------------------------|-------|------------|-----------------|-------|-------|
| (Constant)                   | 0.828 | 0.205      | 0.005           | .391  | 1.228 |
| <i>Aesthetic Properties</i>  | 0.094 | 0.052      | 0.065           | -.015 | .196  |
| <i>Affective Properties</i>  | 0.339 | 0.053      | 0.005           | .238  | .450  |
| <i>Functional Properties</i> | 0.118 | 0.050      | 0.015           | .020  | .223  |
| <i>Symbolic Properties</i>   | 0.152 | 0.032      | 0.005           | .084  | .211  |

$R = 0.655$ ,  $R^2 = 0.429$ ,  $Adjusted R^2 = 0.423$

**Table 6:** Hypotheses Assessment Summary

|     | Hypotheses   | P-value | Status |
|-----|--|---------|--------|
| H 1 | There is a significant relationship between Aesthetic Properties and Customer Engagement.  | 0.065   | Accept |
| H 2 | There is a significant relationship between Aesthetic Properties and Customer Retention.   | 0.527   | Reject |
| H 3 | There is a significant relationship between Symbolic Properties and Customer Engagement.   | 0.005   | Accept |
| H 4 | There is a significant relationship between Symbolic Properties and Customer Retention.    | 0.005   | Accept |
| H 5 | There is a significant relationship between Functional Properties and Customer Engagement. | 0.015   | Accept |
| H 6 | There is a significant relationship between Functional Properties and Customer Retention.  | 0.060   | Accept |
| H 7 | There is a significant relationship between Affective Properties and Customer Engagement.  | 0.005   | Accept |
| H 8 | There is a significant relationship between Affective Properties and Customer Retention.   | 0.005   | Accept |

Table 3 shows the company wise relationships; Airlines (PIA and Serene) and Furniture (Habitt and Interwood). Results show that all websites have a significant relationship

between functional properties and customer engagement and retention. Particularly, it shows that consumers of Habitt have no relationship between engagement and aesthetic properties (emotional appeal or Pathos) when looking at its website. Also they do not have any relationship between engagement and affective properties (trust and credibility or Ethos). Consumers of Interwood have no relationship between engagement and aesthetic properties (emotional appeal or Pathos) but they have a relationship between engagement and affective properties (trust and credibility or Ethos) on the Interwood furniture brand. PIA's consumers also they do not have any relationship between engagement and affective properties (trust and credibility or Ethos). Serene consumers do not have a relationship between engagement and affective properties (trust and credibility or Ethos) as well as they do not have a relationship between retention and aesthetic properties (emotional appeal or Pathos). After individual analysis of each company and its comparisons, summated results of hypothesis have been classified in table 4 and 5. Table 6 shows the hypotheses assessment summary. H2 was rejected with p-value of 0.527; H1 and H6 were accepted at 10% confidence interval with p-value of 0.065 and 0.060 respectively. All other hypotheses were accepted at 5% confidence interval.

## **5. Discussion**

With the increase in the growth of e-commerce industry, it is very important for the websites to have a close emphasis on the website attributes. This study focuses on the website attributes and its relationship with customer engagement and customer retention. The theoretical implication of this research shows that all website attributes are very important for an online e-commerce website. The impact of website attributes on customer engagement and customer retention is very important as it is shown in the above results. Hence, while making an e-commerce website the vendors should emphasize on Aesthetic, Affective, Symbolic and Functional Properties in order to engage and retain online customers more efficiently and effectively.

A number of studies has closely examined functional, affective, symbolic and aesthetic properties of the website and assessed their relationship with customer retention and engagement (Agarwal and Venkatesh 2002; Devaraj et al. 2002; Flavia'n et al. 2006; Palmer 2002; Venkatesh and Ramesh 2006; Rosen and Purinton 2004; van der Heijden 2003; Srinivasan, Anderson, & Ponnayolu, 2002).

This study supports the results given by Flavia'n, et al. (2006); O'brien and Tom (2010), and O'brien (2011), that functional properties increase customer retention and engagement. Our results also support the findings of Koufaris, (2002) and Ranaweera and Prabhu (2003), that affective properties augment customer retention and engagement. Further, this study confirms the results of Srinivasan, et al., (2002) and Cyr, et al. (2009) that symbolic appeal also increases customer engagement and retention. However, aesthetic properties had a significant relationship with engagement and retention in the studies of Cyr, et al. (2009); Tarasewich, (2003); Karimov, et al. 2011; and Wells, et al. (2011) yet our findings do not support their results. Instead it

was found that customers are not retained only on the basis of emotional appeal or aesthetic properties and there was no relationship between the two variables.

### **5.1 Practical Implications**

Findings from this study reveal that different attributes can affect the customer's attitude in a different way, which can be either a positive or a negative effect. A good website, which consists of an attribute like affective properties, mainly focuses on trust and satisfaction; gives a customer confidence on a website. Moreover, when the website is aesthetically appealing, it provides customer a sense of attraction to a website. Apart from this, functional property is the most important of all as it focuses on the ease of use and usefulness. Ease of use being the variable, which provides the customer a comfortable and an understandable environment to surf on the website.

From this study, we are able to conclude that while designing an online website, the website owner's focus should be more towards on these attributes. To make their website look more engaging they should be focusing on the design elements and photos that are more adequate to make it look more attractive. Moreover, this research can be useful to students in terms of their research purposes, marketers can also get benefit from this study as they will be able to know that how can they make their advertisements more appealing to attract customers. Business professionals can get benefit by knowing how these attributes can make their business website more appealing for the customers. The content of the website should be simple to provide an ease to the person visiting the website (Business news daily, 2014). Companies must focus on developing the affective, functional and symbolic properties on their websites more to attract and retain their customers.

### **5.2 Limitations**

In this research, the young generation were selected as the sample size of the study, which were the students of different universities. As the young generation is tech savvy and young generation is more oriented towards online shopping hence our sample is limited to young generation only.

A sample size of 400 students was selected and they were the main source of data collection. As they are the people who use internet more frequently than the other generation. As a small group of people was selected for the data collection, so there might be a possibility of any discrepancy in data. So in order to avoid this inefficiency, in future the data should be collected from different sources. However, there were 40 items and if we apply the rule of Items \*5, then  $40*5 = 200$ , thus our sample size of total 400 for summated results are appropriate but the sample size for individual company wise analysis is inappropriate because we took 100 for each company.

Moreover, only two sectors were selected for the research that is the airline sector and the furniture sector. From that only two companies were selected from each sector for the study. Furthermore, the data collected was from only one city that is Karachi. Therefore, it should be expanded geographically or it should be tested in more cities.

The sample size that was collected was of students only it should be tested on other people also, like working class or different business professionals, which can give a better idea about the opinion of diversity.

### **5.3 Future Research**

In future, a research should be conducted on the m-commerce and its attributes and how could customer be engaged and retained to that particular application. Only two sectors and two companies from each sector was studied in this research. In future, more companies and sectors should be selected for a closer look of the e-commerce industry. The images are one of the focuses but there can be more other features like color. This current research is also applicable for m-commerce as well, in which according to a previous study aesthetic element plays a vital role, when they are used in mobile design to engage the customers (Cyr et al. 2006). In future, a research can be conducted for the use of images and photos in m-commerce concerning how to improve mobile experience.

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## Reassessing the Impact of Risk Management Capabilities on Firm Value: A Stakeholders Perspective

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### Abstract

This study aims to analyze the impact of firm's risk management capabilities on firm performance and cost. Using panel data technique, a sample of 301 non-financial firms was analyzed for the time period on five years starting from 2011 to 2015. We assert that effective risk capabilities have positive impact on all stakeholders. The effective risk management capabilities guarantee more resilience to exogenous and endogenous risks. Our findings will have a significant impact on existing literature, by extending the existing knowledge of firm's risk management capabilities into the domain of diverse stakeholders and resources adjustment.

**Keywords:** *Risk Management, Firm Cost, Operational Cost, Production Cost, Dynamic Capabilities*

**JEL Classification code:** C23, G30, G32

### 1. Introduction

In the past several decades, the fast changing competitive landscape and intense competition have increased business risks (Henisz & Zelner, 2015). Further, organizations are also in constant quest to create value for their shareholders. Therefore, they get indulge in risky market exposures, which can bring future opportunities and profits. But, those profitable opportunities can also lead to huge losses (Bromiley, McShane, Nair, & Rustambekov, 2015). To avoid those uncertainties firms take help from risk management techniques and financial tools (D. Teece, Peteraf, & Leih, 2016). Although financial tools like derivatives and securitization facilitate to the management of risks, but they also carry their inherent risks (Hain, 2011). Further, financial markets themselves are becoming complex in pricing, isolating and shouldering the risk (Hardy & Maguire, 2016). The recent financial scandals and crisis vividly illustrate the complex nature of business operations and misuse of risk management tools (Benoit, Colliard,

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Hurlin, & Pérignon, 2017; Berry & Phillips, 1998). Therefore, timely management of such uncertainties and associated costs have become imperative for the success of business and value creation. Although, different risks can be attributed to the losses of the firms, but the most important is the inability of the firms to take holistic approach towards risk exposures (Schiller & Prpich, 2014).

In academic research the conventional risk management is primarily associated with the elimination of downside risk associated with economic uncertainties (Torben Juul Andersen, 2008; Hutter & Power, 2005; Miller & Leiblein, 1996; Millo & MacKenzie, 2009). Similarly, process malfunction, technological disruption, compliance issues and men made irregularities are covered in the domain of operational risk (Power, 2005; Scott & Walsham, 2005). Moreover, the strategic risks like innovation, flexible structure, strategic renewal and responsive environment are considered as core tools to overcome strategic uncertainties and volatilities (Torben Juul Andersen, 2008; da Silva Etges & Cortimiglia, 2017; Miller & Bromiley, 1990). But how the firms will incorporate these tools and techniques in to practice, is still a mystery (Aven & Renn, 2009). Even if these risk management capabilities are adopted by the firm, how it is conceived to empirical research, is another challenge. Further, the dearth of empirical studies, especially in emerging economies to take holistic view of the risk management, increases the difficulty in developing the appropriate measures and tools to ascertain the firm's risk management capabilities (da Silva Etges & Cortimiglia, 2017). Therefore, we adopted the concept of total risk management by Torben Juul Andersen (2008) and effective risk management by Torben Juul Andersen and Roggi (2012), which we find as a more integrative and holistic approach toward risk management. This deliberative mode of risk management sufficiently bolsters the ability of a firm to manage operational, economic and strategic risk for better organizational performance (Torben Juul Andersen & Roggi, 2012; Kallenberg, 2007). The firms equipped with effective Risk Management Capabilities (RMC) will be better prepared to control endogenous and exogenous risks and hence minimize their operational inefficiencies and cost of doing business (Song, Newbury, Kumaraswamy, Park, & Zhao, 2019). Subsequently this will lead to decrease in earnings volatility and increase profitability.

In today competitive world, we cannot under estimate the importance of firm's cost at the time of risk management (Moser & Martin, 2012; Reider, 2008). The presence of higher firm's risk will trigger disruptive and unstable future cash flow (Fama & French, 1993). Which will further increase the uncertainty in minds of the stakeholders (Luo & Bhattacharya, 2009; Renn, 2015). Therefore growing risks and its associated cost related repercussions have further increased the importance of firm's cost structure, and its impact on firm's ability to manage its risks (Chen, Di, Jiang, & Li, 2017). It is also argued that different stakeholders can play significant role in the success of business and managing market uncertainties (Crilly & Sloan, 2012; Freeman, 2010). These diverse stakeholders will also compel firms to prudently manage risks (E. Cantor, Blackhurst, Pan, & Crum, 2014). Therefore, we introduced production and operational cost of the firm, as proxy to represent all those major stakeholders (Miller & Chen,

2003). Both these proxies will help us to empirically investigate the theoretical rationale that stakeholder are important for managing market uncertainties and value creation (Edwards, Ram, & Smith, 2008; Mitchell, Agle, & Wood, 1997).

The remaining of the paper is organized as follow. In subsequent section 2 we develop the theoretical rational and their association on the concept of dynamic capabilities, risk management and firm cost. In section 3 we explained the sample, data, variables and models of the study. Results and discussion are reported in section 4. Finally, in section 5 we presented the summary of the findings and some future research directions.

## **2. Theory Building**

### **2.1. Risk Management Capabilities**

A value of firm is the present value of its future cash flows less bankruptcy costs (Stulz, 2003). Hence, the value of the firm can either be improved by increasing the future cash flows or reducing cost or by insuring both. To achieve those objectives, a firm has to adopt its core capabilities to continuously changing market uncertainties (Porter, 1989). Such as, sales are aligned with market needs and requirements. Firm's costs are curtailed by adopting state of the art tools and techniques. These dynamic capabilities represent the firm's responsiveness to endogenous and exogenous risks. In the words of D. J. Teece, Pisano, and Shuen (1997) the dynamic capability is "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environment". These capabilities are embedded in the organization culture and composition of hierarchies and procedures. It will also ensure the responsiveness and adaptability of a firm to capitalize on market opportunities and swift strategic manoeuvring in case of changing alignments of the industry (D. J. Teece, 2007). Though, there are multiple risks that are exogenous to the firm and associated with socioeconomic condition of a country. For example, technological transformation, initiation of new markets and products, competitor's strategic manoeuvring, recession, taxes etc are some of the strategic risk that are beyond managerial controls (Miller, 1992). Those risks are hard to predict and quantify, because of complex and interdependent market structure and operations (Bettis & Hitt, 1995; Loch, DeMeyer, & Pich, 2011). Therefore the resilience of the firm to confront those strategic risks should stem from firms-specific capabilities (Helfat et al., 2009; D. J. Teece et al., 1997; Zollo & Winter, 2002). These dynamic risk management capabilities can be leveraged during changing geopolitical and economic conditions (Edwards et al., 2008). Moreover, these will also improve the chances of value creation, by capitalizing on market opportunities.

### **2.2. Firm Costs**

The management of firm cost is not new to the academic research (Burt & Doyle, 1993). Different strands of academic research have highlighted and emphasized the importance of cost management (Coad & Cullen, 2006). According to some authors the firm cost is more important than the sales. For example, Reider (2004) argue that, the increase in sales can improve the net profit margin, which may or may not add value to the firm.

But, companies cost management can add “dollar for dollar” contribution. Therefore, the effective cost management and control has more value adding potential than increased sale (Reider, 2008). But despite its pivotal role in business operation the very nature of the firm’s cost is still a debatable issue. Traditionally, firm’s cost was brought into academic research in the context of sales. At the time it was assumed that, there is a proportionate variation in firm’s cost and sales (Cooper & Kaplan, 1992). However, contrary to this strand of research, Anderson, Banker, Huang, and Janakiraman (2007) proposed an alternative argument and confirmed the “Sticky” behaviour of the firm cost. The notion of sticky behaviour was built on association of firm cost and sales. For example if we expect an increase of 20% in the firm’s future activities (e.g. sales), it may result a subsequent increase of 10% in firm’s cost. But the same decrease of 20% in firm activity may result a decrease of 6% in the cost of the firm. This behaviour is the consequence of managerial indifference to cost reduction in organizational downturn and to face replacement costs as increased future activity. Alternatively, bear the cost of unutilized resources with hope of positive future prospects (Subramaniam & Watson, 2016). That complex nature of firm cost further increase its importance in organizational success. To further understand the importance of cost we further divided firm’s cost into two very important components i.e. production cost and operation cost. Both these costs incorporate the relationships of some major stakeholders (Miller & Chen, 2003).

### **2.2.1 Production Cost**

The production cost is also termed as business expense, which is the cost of doing business or manufacturing cost. In the field of accounting and finance it is often indicated by cost of goods sold. It incorporates direct cost such purchase of goods, raw materials and indirect costs related to warehousing, facilities, equipment, and labour (Hugos, 2018; Reider, 2008). The firms with the capabilities to manage those costs and associated risks will show better performance (Kaplan, 1983). At the same time, it also highlights the relationship of some key stakeholders with the firm. For example the COGS are associated with internal and external costs based on contractual agreement with different stakeholders (Jones, 1995). Such as the cost of raw material and labour cost, signifies the importance of suppliers and internal work force (Freeman, 2010). Similarly, the costs of sending finished goods to dealers and distributors are also of important nature. If the firm is maintaining better terms with these diverse stakeholders, it will help the firm to better manage its risks (Crilly & Sloan, 2012; Freeman, 2010). Such as, firms can get concessionary terms in economic downturn from various stakeholders (Wang, Barney, & Reuer, 2003). These concessionary contractual terms can be in shape of lower raw material cost, extended credit facilities and lower dealers and suppliers commissions (Miller & Chen, 2003). Furthermore, a firm with better risk management capabilities will be in a position to control those costs, as it will clearly foresee and capitalize on market opportunities, potential demands and sales. Therefore those concessionary terms due to effective risk management capabilities will significantly improve the chances of value creation.

### **2.2.2 Operational Cost**

The operational cost such as Selling, General and Administrative Expenses incorporates all non-production expenses. It represents one of the most important and significant overhead cost of business, which is directly related to revenues generation (Cooper & Kaplan, 1988). Firm operational cost consolidates the expenses related to some of the most important stakeholders of the firm. Such as employees remuneration and other expenses such as sales and marketing expense, rent, insurance, utilities, supplies, and expenses related to head office (Liu, Liu, & Reid, 2017). The nature of these costs is very tricky. In most cases, a firm's financial manager will generally try to overcome those costs. But some of such costs can be very detrimental to the success of the businesses. For example sales and marketing expenses is directly associated with increase in revenue. So the money spent in terms of commissions to sales person and advertising campaign will add significantly to revenue generation (Cooper & Kaplan, 1988). Similarly, high salaries to managers and executives are also associated with employee's competence, satisfaction and motivation (Edwards et al., 2008). Moreover the administrative expenses related to acquiring state of the art processes and technologies can significantly improve the risk management function of the organization (Hammer, 2015). Therefore, the increase in expenditure on key stakeholder will give more resilience to a firm to overcome its endogenous and exogenous risks.

### **2.3. Theoretical Framework**

A firm's ability of strategic responsiveness requires efficient resource mobilization to ensure smooth implementation of managerial decisions (Torben J Andersen, Denrell, & Bettis, 2007). According to D. J. Teece (2007) different organizational layers, procedures, production and distribution mechanisms, communication channels, corporate values, perks and privileges play a significant role in development and nurturing these response capabilities. Therefore, the effective risk management capabilities of firm will ensure the firm's responsiveness to changing market dynamics, in such a way that, value for shareholder can be derived by reducing fluctuation in firm's earning and reduction in bankruptcy costs (Torben Juul Andersen, 2008). The effective risk management capabilities at organizational level will also bring multiple opportunities for organizational growth and stability. For example, by controlling earning volatilities, a firm can reduce its bankruptcy risk, which will also enable them an access to low cost external finances (Minton & Schrand, 1999; Smithson & Simkins, 2005). Similarly, the lower bankruptcy cost will also reduce the transaction cost associated with different stakeholders (Miller & Chen, 2003; Wang et al., 2003). The associated cash flow stability will improve firm's liquidity condition, and firms will not require high level of liquid assets or liquidity buffers. Thus these funds can be used for future investments (Froot, Scharfstein, & Stein, 1993; Nocco & Stulz, 2006). Therefore, we expect that firm with better risk management capabilities will be better placed to manage its endogenous and exogenous risks and thus lead to superior performance. Hence, our first hypothesis of the study is as follow.

**H1:** *There is significant and positive relationship between RMC and firm performance.*

In the context of discussion in previous section, a firm's cost structure assumes a very key role in organizational efficiency, especially at the time of market uncertainty (Abeberese, 2017; Coad & Cullen, 2006; Stolbov & Shchepelev, 2019). So it is vividly possible that increase in firm cost will decrease the firm performance. Hence we presume that;

**H2:** *The increase in production cost will negatively affect the firm performance.*

**H3:** *The increase in operational cost will negatively affect firm performance.*

The trade-off between firms cost and performance is an enduring postulate (Anderson et al., 2007; Banker, Huang, & Natarajan, 2011; Baumgarten, Bonenkamp, & Homburg, 2010), but very little attention is given to the association between firm's cost and risk management capabilities. So the real question is whether, a firm with effective risk management capabilities can control the negative impact of increasing cost on firm performance. Because, the firms capable of predicting and overcoming its endogenous and exogenous risks will also exhibit the characteristics to control their production and operational inefficiencies (Song et al., 2019). Subsequently it will also lead to decrease in earnings volatility and increase profitability. Therefore, there is possibility of moderating effect of the firm's risk management capabilities of on relationship between firm's costs and performance.

**H2a:** *The effective RMC of the firm will negatively moderate the relationship between production costs and firm performance.*

**H3a:** *The effective RMC of the firm will negatively moderate the relationship between operational costs and firm performance.*

There is general agreement among researchers that risk management add value to the firm corporate standing (Bromiley et al., 2015; Kallenberg, 2007; Smithson & Simkins, 2005). But it is also argued that too much risk management will increase the firm's cost (Amaya, Gauthier, & Léautier, 2015; Berghöfer & Lucey, 2014; Stulz, 2003). Similarly firm cost and cost efficiency has become an important intrigue to establish products competitiveness (Kolus, Wells, & Neumann, 2018). Therefore, it will be interesting to establish a direct relationship between firm cost and risk management capabilities. To explore this paradox, we assert that if the firm has the ability to control or manage its endogenous and exogenous risks, it will be in a better position to overcome its production and operational costs.

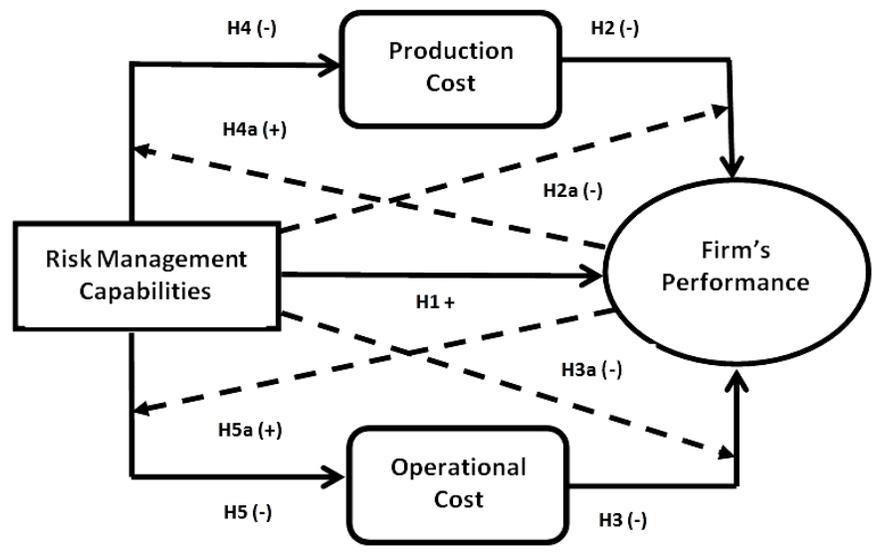
**H4:** *There is significant and negative relationship between RMC and production cost.*

**H5:** *There is significant and negative relationship between RMC and Operational cost.*

The firms which are continuously showing higher performance will be in better position to manage its risk profile by utilizing its available resources (Miller & Chen, 2003). Moreover, the firms showing steady performance will be in a better position to demand concessional terms from different stakeholders (E. Cantor et al., 2014; Maiga, Nilsson, & Ax, 2015; Wood Donna, 1995). Therefore, we expect a positive moderating effect of firm performance on the relationship between risk management capabilities and firm's costs. Hence, we hypothesized that;

**H4a:** The firm performance positively moderates the relationship between RMC and production cost.

**H5a:** Firm performance positively moderates the relationship between RMC and firm's operational cost.



**Figure 1:** Schematic Diagram

### 3. Methodology

This study deals with a basic question to find the impact of RMC on firm value. This section elaborates different parts of methodology i.e. sample of the study, data, variables and empirical models.

#### 3.1. Sample and Data Source

The empirical study is based on non-financial firms listed on Pakistan Stock Exchange (PSX) for the period of five year starting from 2011 to 2015. The data is obtained from financial statements of the non-financial firms across all industries listed on Pakistan Stock Exchange. We begin our analysis with all listed firms on PSX, which are 480 in

total. We excluded services sector and financial institution from our sample. There were several reasons for its exclusion. First, firms in those sectors don't report data on production cost (i.e cost of goods sold). Second, the risk dynamics of financial institution to be more specific are completely different than manufacturing firms (Maiga et al., 2015). Third, the accounting, reporting and regulatory framework of these firms are also different (Chang, Hall, & Paz, 2015; Tang, 2016). Further, we also excluded all those firms whose data were not reported for sample period. Final analyses were conducted on 301 non-financial firms.

**Table 1:** Classification of Firms in to Sector

| S.No                                 | Sector           | No of Firms | S.No | Sector                | No of Firms |
|--------------------------------------|------------------|-------------|------|-----------------------|-------------|
| 1                                    | Textile          | 119         | 7    | Cement                | 19          |
| 2                                    | Sugar            | 29          | 8    | Motor Vehicles Sector | 17          |
| 3                                    | Food             | 12          | 9    | Fuel & Energy         | 15          |
| 4                                    | Chemical         | 39          | 10   | Refined Petroleum     | 8           |
| 5                                    | Manufacturing    | 23          | 11   | Paper & Paperboard    | 6           |
| 6                                    | Mineral Products | 7           | 12   | Electricity           | 7           |
| <b>Total Number of Sampled Firms</b> |                  |             |      |                       | <b>301</b>  |

### 3.2. Variables

The detail explanation of each variable used in study is provided in Table 2. However main independent variable i.e risk management capabilities need further explanation. The RMC of the firms is calculated as coefficient of variation of sales divided by the coefficient of variation of firm performance, both calculated over consecutive five year periods (Torben Juul Andersen & Roggi, 2012). The firm performance is measured by return on assets of the firm. According to Torben Juul Andersen (2008) the coefficient of variation in sales point towards the effect of various exogenous risks and coefficient of variation in firm performance signify the ability of the firms to response to those risks. To avoid any industry effects and related trend we scaled the RMC of the firm by dividing on their respective industry averages. Firm size and firm's financial leverage are our control variables.

**Table 2:** Description of Variables

| Variable         | Notation | Type  | Formula/Proxy   | Used in Previous Research  |
|------------------|----------|-------|---|--|
| Firm Performance | ROA      | DV/MV | $ROA = \frac{\text{Net Income}}{\text{Average Assets}}$ | (Torben Juul Andersen, 2008; Deephouse & Wiseman, 2000; Miller & Leiblein, 1996) |

|                              |                           |       |  |   |
|------------------------------|---------------------------|-------|--|---|
| Risk Management Capabilities | RMC                       | IV    | $RMC = \frac{CV \text{ of Sales}}{CV \text{ Firm Perf}^3}$   | (Torben Juul Andersen, 2008; Torben Juul Andersen & Roggi, 2012)            |
| Firm's Costs                 | Production Cost (P_Cost)  | MV/DV | $P\_Cost = \frac{COGS}{Sales}$                               | (Miller & Chen, 2003)   |
|                              | Operational Cost (O_Cost) | MV/DV | $O\_Cost = \frac{SG \& A \text{ Exp}}{Sales}$                |   |
| Firm Size                    | F_Size                    | CV    | $F\_Size = NL \text{ (Total Sales)}$                         | (Aldrich, 1999; Pagach & Warr, 2011; Sharfman, Wolf, Chase, & Tansik, 1988) |
| Financial Leverage           | F_Lev                     | CV    | $F\_Lev = \frac{\text{Long Term Debt}}{\text{Total Equity}}$ | (Catanach & Brody, 1993; Saunders, Strock, & Travlos, 1990)                 |

### 3.3. Empirical models

Using panel data, we used different fixed effect panel regression test to analyze the relationship between of risk management capabilities with firm performance and firm costs. The panel data modelling is considered more useful as it allows more variability, efficiency, degree of freedom as compared to cross-sectional and time-series (Baltagi, 2008).

To empirically investigate the above developed hypotheses, following are the econometric models<sup>4</sup>.

$$ROA_{it} = \alpha_0 + \beta_1 RMC_{it} + \beta_2 F\_Size_{it} + \beta_3 F\_Lev_{it} + \varepsilon_{it} \quad (I)$$

$$ROA_{it} = \alpha_0 + \beta_1 RMC_{it} + \beta_2 P\_Cost_{it} + \beta_3 RMC_{it} * P\_Cost_{it} + \beta_4 F\_Size_{it} + \beta_5 F\_Lev_{it} + \varepsilon_{it} \quad (II)$$

$$ROA_{it} = \alpha_0 + \beta_1 RMC_{it} + \beta_2 O\_Cost_{it} + \beta_3 RMC_{it} * O\_Cost_{it} +$$

<sup>3</sup> ... Firm Performance =  $\frac{NetProfit}{TotalAssets}$

<sup>4</sup> ... For H1= Model I; H2 & H2a = Model II; H3 & H3a = Model III; H4 = Model IV; H4a = Model V; H5 = Model VI; H5a = Model VII.

$$\beta_4 F\_Size_{it} + \beta_5 F\_Lev_{it} + \varepsilon_{it} \tag{III}$$

$$P\_Cost_{it} = \alpha_0 + \beta_1 RMC_{it} + \beta_2 ROA_{it} + \beta_3 F\_Lev_{it} + \beta_4 F\_Size_{it} + \varepsilon_{it} \tag{IV}$$

$$P\_Cost_{it} = \alpha_0 + \beta_1 RMC_{it} + \beta_2 ROA_{it} + \beta_3 RMC * ROA_{it} + \beta_4 F\_Lev_{it} + \beta_5 F\_Size_{it} + \varepsilon_{it} \tag{V}$$

$$O\_Cost_{it} = \alpha_0 + \beta_1 RMC_{it} + \beta_2 ROA_{it} + \beta_3 F\_Lev_{it} + \beta_4 F\_Size_{it} + \varepsilon_{it} \tag{VI}$$

$$O\_Cost_{it} = \alpha_0 + \beta_1 RMC_{it} + \beta_2 ROA_{it} + \beta_3 RMC * ROA_{it} + \beta_4 F\_Lev_{it} + \beta_5 F\_Size_{it} + \varepsilon_{it} \tag{VII}$$

#### 4. Results and Discussion

Descriptive statistics and correlation analysis are reported in Table 3. The firm performance is positively correlated with the RMC and firms size. The financial leverage, operational and production costs are negatively correlated with the performance of the firm.

**Table 3:** Descriptive Statistics and Correlation (N=301)

|            | Mean  | Min    | Max   | S.D.  | 1        | 2      | 3        | 4        | 5       | 6 |
|------------|-------|--------|-------|-------|----------|--------|----------|----------|---------|---|
| <b>ROA</b> | 0.970 | -9.816 | 11.75 | 2.826 | 1        |        |          |          |         |   |
| <b>RMC</b> | 0.915 | 0.008  | 1.833 | 0.924 | 0.036*   | 1      |          |          |         |   |
| <b>FL</b>  | 0.951 | -11.15 | 14.43 | 1.984 | -0.108** | 0.045* | 1        |          |         |   |
| <b>FS</b>  | 1.000 | 0.523  | 1.269 | 0.093 | 0.159**  | -0.003 | 0.084**  | 1        |         |   |
| <b>OC</b>  | 0.547 | 0.002  | 14.24 | 1.086 | -0.143** | 0.036  | -0.089** | -0.123   | 1       |   |
| <b>PC</b>  | 0.824 | 0.150  | 10.00 | 0.448 | -0.243** | 0.010  | -0.070   | -0.223** | 0.288** | 1 |

\* P < 0.10; \*\* P < 0.05; \*\*\* P < 0.001

The result of firm performance as a dependent variable is reported in Table 4. In Model I the regression coefficient of RMC with firm performance is positive and significant. Hence we accept H1. Which signify that, the firms which have the ability to control and manage endogenous and exogenous risks will lead to better organizational performance. In Model II the coefficient of production cost is negative and statistically significant. Therefore, we accept H2, which shows that with increasing production cost firms performance will get negatively affected. However, the regression coefficient of interaction term P\_Cost\*RMC positively and significantly moderate the relationship between RMC and firm performance. Therefore the result show partial support to H2a, as the direction of relationship is opposite to our established theory. This result shows that, firm’s with effective risk management capabilities will increase the negative

impact of rising production cost on firm’s performance. These finding are however, slightly contrary to the establish theory and practices. However, one possible explanation to the reported departure may be that in volatile conditions firms normally hold high level of inventories to overcome market uncertainties (Mackelprang, Habermann, & Swink, 2015). Similar findings were also reported by Gertler and Gilchrist (1994), who were of the view that manufacturing firms are often manifested by larger quantity of fixed assets and inventories. Therefore, their cost structures are difficult to minimize in short term and show sticky behavior. In such cases, in order to hedge against uncertain market conditions, the firms will have little option but to increase production costs as a risk management strategy (Mackelprang et al., 2015). This type of behavior is very likely, especially when firms are expecting high inflationary trends in future.

**Table 4:** Regression Analysis – Firm Performance (N=301)

|  | ROA              |                   |                   |
|--|------------------|-------------------|-------------------|
|  | Model I          | Model II          | Model III         |
| C  | 7.391 (2.610)    | 9.172(2.609)      | 7.794(2.588)      |
| RMC  | 0.199** (0.092)  | -0.093(0.190)     | 0.174* (0.098)    |
| P_Cost   | -                | -1.376*** (0.290) | -                 |
| P_Cost * RMC   | -                | 0.318* (0.198)    | -                 |
| O_Cost   | -                | -                 | -0.472*** (0.105) |
| O_Cost * RMC   | -                | -                 | 0.083(0.070)      |
| F_Lev  | -0.034(0.047)    | -0.042(0.047)     | -0.042(0.047)     |
| F_Size   | -6.571** (2.608) | -7.182*** (2.589) | -6.725*** (2.587) |
| No of Observation  | 1505             | 1505              | 1505              |
| Multiple R <sup>2</sup>  | 0.597            | 0.606             | 0.605             |
| Adjusted R <sup>2</sup>  | 0.496            | 0.505             | 0.505             |
| Durbin-Watson Stat   | 2.048            | 2.046             | 2.065             |
| F- Significance  | 0.000            | 0.000             | 0.000             |
| * P < 0.10; ** P < 0.05; *** P < 0.001<br>The parenthesis include (Standard Error) |                  |                   |                   |

In Model III, we accept H3 as the regression coefficient O\_Cost is statistically significant and negative. Further, the interaction term of O\_Cost\*RMC positively moderate the association between RMC and performance. However the results are insignificant, so we reject H3a. The operational and production costs have negative and highly significant relationship with performance in Model II and Model III. This shows that firms which are efficient in cost management will perform better.

The regression analysis results for firm cost as dependent variable are presented in Table 5. The empirical result of Model IV shows negative and significant association of RMC with production cost of the firm. Therefore, we accept hypothesis H4. Those

results illustrates that, the firms which have better risk management capabilities will be in a better position to control its production related overhead costs. Similarly, the negative and significant coefficient of ROA shows that, the performance of the firm is also a key aspect of cost reduction in production activities. Firms which consistently perform well will have multiple resources to fall back upon and to improve its production related cost management. In Model V the interaction RMC\*ROA shows a positive impact on the relationship of RMC and P\_Cost. Thus we accept H4a. This show that the firms with ability to show superior performance will be in a better position to manage its risk profile and overcome production related expenses. This also confirm the notion that, firms with better risk RMC, coupled with continuous performance will get more concessional terms from production level stockholders.

**Table 5:** Regression Analysis – Firm’s Costs (N=301)

|  | P_Cost           |                      | O_Cost               |                      |
|--|------------------|----------------------|----------------------|----------------------|
|  | Model IV         | Model V              | Model VI             | Model VII            |
| C  | 1.624(0.320)     | 1.629(0.320)         | 1.247(0.860)         | 1.227<br>(0.857)     |
| RMC  | -0.019*(0.011)   | -0.025**(0.012)      | 0.050*(0.030)        | 0.076**<br>(0.031)   |
| ROA  | -0.016***(0.003) | -0.022***<br>(0.005) | -0.044***<br>(0.009) | -0.017<br>(0.012)    |
| RMC*ROA  |                  | 0.007*(0.004)        |                      | -0.037***<br>(0.012) |
| F_Lev  | -0.006(0.006)    | -0.005(0.006)        | -0.017(0.016)        | -0.019<br>(0.015)    |
| F_Size   | -0.760***(0.319) | -0.760***(0.320)     | -0.686(0.859)        | -0.684<br>(0.856)    |
| No of Observation  | 1505             | 1505                 | 1505                 | 1505                 |
| R-squared  | 0.762            | 0.762                | 0.706                | 0.709                |
| Adj R-squared  | 0.702            | 0.702                | 0.632                | 0.635                |
| Durbin-Watson Stat   | 2.069            | 2.075                | 2.023                | 2.052                |
| F- Significance  | 0.000            | 0.000                | 0.000                | 0.000                |
| * P < 0.10; ** P < 0.05; *** P < 0.001<br>(Standard Error) |                  |                      |                      |                      |

In Model VI the results of H5 are significant at 10% of significance level, but in opposite direction. Such as, the firm with better RMC will have higher operational cost. Operational cost is one of the most important and significant overhead cost of businesses, which is directly related to revenues generation. The operational cost consolidates some vital stakeholder costs. Such as employee’s salaries, bonuses, sales and marketing expenses, rent, insurance, utilities, supplies, and expenses related to head office. According to Jones (1995) the more a firm spend on key stakeholders, the more

resilient it become to overcome its risks and uncertainties. Moreover, Subramaniam and Watson (2016) argue that most of the manufacturing firm's SG&A expenses show sticky behaviour, if there is certain increase in the revenue of the business. So the possible sticky behaviour may also be the reason of this positive association. However, this is a shade contrary to our expectations and theory, hence needs further research. The coefficient of ROA is highly significant and negative.

The interaction RMC\*ROA in Model VII, shows a negative impact on the relationship of RMC and O\_Cost. This shows that increase in operational cost due to risk management activities will decline in those firms which are showing positive performance. These results are intriguing, and support our earlier results of positive impact of RMC on operational cost in Model VI.

## 5. Conclusion

In this study we investigated two basic objectives of risk management i.e. whether or not, firms' risk management capabilities will improve the firms' performance and reduce cost. We found strong supporting evidence for both propositions. Therefore, we confirm that firms which have the ability to manage their endogenous and exogenous risks will exhibit better economic performance and will minimize its production related overhead costs. The moderating effects of RMC with cost variables and firm's performance are very thought provoking. These results signify some specific market dynamics. Such as, holding large quantity of inventories and expected future inflationary trends. However, detail empirical investigation of different heads of production cost will further elaborate this behaviour.

The performance of the firms is also a key ingredient for both cost reduction and implementation of risk management strategy. Therefore, the firms which are continuously showing positive performance will have multiple resources to resort to improve management of their production costs. The positive performances will also enable firms to get more concessional term form various production level stakeholders. We also found that, the firms with better risk management capabilities may also lead to higher operational costs. This finding is, however, of primary nature and necessitates deeper investigation. However, the negative moderating impact of firm performance on risk RMC and operations cost's relationship confirms that, the incremental performance of the firms will weaken the impact of rising operational cost with associated risk management abilities.

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# Impact of Senior Management Support, Employees' Involvement, and Open Corporate Culture on The Motivation of Employees: An Empirical Study

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## Abstract

This study is aimed to investigate the impact of senior management support, employees' involvement and open corporate culture on the motivation of employees' motivation by using the education sector as a study area. This paper is an empirical study and its primary data is collected through a questionnaire. The sample size of this study consists of two hundred employees (hundred from public and hundred from private institutes). Correlation and regression analysis are used to test the hypothesis of the study. The findings of the study show that employees' motivation mainly depends upon senior management support and employees' involvement in decision making. On the other side, open corporate culture has no significant impact on employees' motivation. The study, therefore, recommends that organizations should include some practical tools that can increase their employees' motivation.

**Keywords:** *Senior management support, employees' involvement, open corporate culture, employees' motivation, education sector*

**JEL Classification:** M1, M2, M20, M3, M30, M31, M32, M4, M5, M6, M7, M8, M9

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## 1. Introduction

This research study concerns with the various factors that may affect the motivation of employees. These variables are senior management support, employees' involvement, open corporate culture, and employees' motivation. Although employee motivation has been the focus of various previous researches but still the most daunting task of organizational experts, business scholars and managers are how to put together and utilize their human and material resources to achieve the organizational objectives (Olusadum & Anulika, 2018). Further, they proved that employee motivation has a

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significant relationship with employee performance. As per the study of Jensen (2018), leaders play an important role in motivating their employees, to achieve high performance and organizational goals.

Senior management support, employee empowerment/ involvement, the teamwork of employees and open corporate culture are the cultural factors that are directly linked with total quality practices in the organization (Adebanjo & Kehoe, 1999). They further argued that these cultural factors merge structural dimensions, cultural elements & competencies into one context which ultimately supports all stakeholders for developing their visions, values, and beliefs. For getting good business results, employees' involvement in decision making, employees' teamwork, and better management play a key role (Haupt & Whiteman, 2004). As per the study of Haynie and Mossholder (2016), senior managers should share information with their employees and involve them in decision making if they want to minimize negative perceptions of employees especially concerning changes in the organization. Moreover, senior managers will be able to maintain the motivating potential of behavioral control of employees.

This research study covers the service sector, particularly the education sector.

Three main hypotheses are developed: (1) Relationship of senior management support with employees' motivation; (2) Employees' involvement in decision making increases the motivation of employees; (3) Open corporate culture relates to the employees' motivation. The main objective of this study is to see the impact of senior management support, employees' involvement and open corporate culture on the motivation of employees. This study will provide help to educational institutes and leaders to motivate their employees and to understand the importance of motivational factors as no previous research is available with these independent variables. So, if employees' motivation is not properly handled then organizations will always endure negative attitudes of employees towards work.

## **2. Literature Review**

Organizational culture refers to the values, attitudes, beliefs, and norms that are shared by its members which mean that how its members behave with each other and with outsiders (Robbin & Coulter, 2003). As per the study of Saha and Hardie (2005), an organization with quality culture endorses leadership rather than supervision; inspires commitment in its staff, encourages teamwork, promotes employees' empowerment & eliminates fear, instill pride in employees and promotes employees to seek continuous improvements.

According to management literature, employees are the most valuable asset of the organizations and they act as a key player for achieving organizational goals (Judge & Ilies, 2002; Rainey, 1997). The study of Olusola (2011) proved that motivation is an essential mechanism for regulating the work behaviors of employees. As per the study of Olusadum and Anulika (2018), the most challenging task for organizational experts and managers is to utilize and motivate their human resources. Moreover, senior managers play an important role in motivating their employees and to achieve

organizational goals (Jensen, 2018). Fiaz and Saqib (2017) proved that a supportive leadership style helps to increase the motivation of employees. Employees' performance and productivity can be improved if top management provides a suitable work environment and comfort to their employees (Leiter & Maslach, 2002). Usually, senior managers make strategic decisions that directly affect organizations' internal policies and culture. And employees of the organizations are influenced due to these senior management decisions and actions (Barrick, Thurgood, Smith, & Courtright, 2015)

To boost up the employees' motivation, leaders are required to demonstrate personal courage, express confidence in others and trust on abilities of their workers (Webb, 2007). Moreover, he proved that employees show motivation towards extra efforts only when their leaders possess self-confidence, power, high energy, and assertiveness in them. Organizations have an influencing link between leaders and their followers with the true intention of genuine transformation (Daft, 2014). Some previous researches revealed a direct relationship between leadership and employees' work-related attitudes as well as efforts such as job involvement, career satisfaction, and organizational commitment (De Groot et al., 2000; De Hoogh et al., 2005). As per the study of Jensen (2018), leaders have the cardinal responsibility of determining what motivates their employees. Moreover, he viewed that leaders must spend time with their employees in order to build close relationships and to know their employees on an intimate level to determine what motivates them.

Empowerment or involvement refers to the improved intrinsic task motivation. Kyoon et al., (2006) define employee empowerment as the degree to which a group of employees participates in decision making. Employees' involvement in business decisions has a positive impact on internal business conditions and organization performance (Lawler et al., 1992). Chan et al., (2004) believe that organizations should involve employees in decision making and process improvement activities by encouraging their participation. This involvement provides them with an increased sense of ownership and responsibility. Organizations that use employee education programs observe visible improvements in their employees' abilities (Cebeci & Beskese, 2002). Employees' job satisfaction and motivation are linked with the employees' perceived empowerment (Byza, Dorr, Schuk & Maier, 2019). The study of Ukil (2016) viewed that employees' satisfaction significantly depends on employees' empowerment and then these satisfied employees provide quality services.

Corporate culture can impact the motivational perspective of employees (Shore & Wayne, 1993). Power distribution between employees of the organization builds an open corporate culture and allows employees to control their work activities (Ambroz, 2004). Oakland (2014) believed that a key medium of employees' motivation towards quality service efforts is one to one communication and visible management commitment. Adebanjo and Kehoe (1999) viewed that organizations with quality culture presented a better level of interdepartmental co-operation, workforce flexibility, and a "flatter" management structure. Organizations can improve empowerment in their employees by developing an organizational learning environment; and especially focus on their motivation towards work (Sadeghifer et al., 2014). La Motta (1995)

believed that there is a strong need for such managers in the organizations who must learn to motivate their employees.

Most of the employees are motivated in their organization due to various factors such as pleasant working environment, the culture of mutual respect, feeling of prestige and self-respect, the provisions of adequate leisure time and involvement (Merchant et al., 2003). Recognition is considered a first step for increasing the employees' involvement in work activities (Kemp et al., 1997). For achieving quality in employees' performance, educational institutes should provide their employees a dynamic and advanced employee' training programs (Mohd, 2012). Perry and Wise (1990) viewed that public organizations need to reframe the level of motivation in their employees. Schein (1980) believed that employees usually feel motivation towards their work whenever they get what they need from their job and they respond positively when top management fulfills their needs (Mayo, 2014).

The organizational theory refers to the set of interrelated concepts that depict the behavior of employees who interacts with each other to perform the activities projected towards the accomplishment of goals. The Neoclassical theory states that employees are distinctly motivated and they want to fulfill their certain needs. The premise of this study is based on the idea that the key role of senior management is to utilize their employees to get things done in the organizations. Rather than focus on the structure of the organization, the neoclassical theory is concerned with the employees and their motivation towards work. Neoclassical theory is concerned about to find the best ways that help leaders to motivate and support their employees within the organization (Neoclassical Theory of Management: The Human Relations Approach, 2012).

Moreover, Hawthorne studies revealed that employees' relationships with their colleagues and bosses are more important factors for managers to consider. It is also assumed that managers who failed to consider the social needs of their employees could expect to deal with resistance and employees' lower performance.

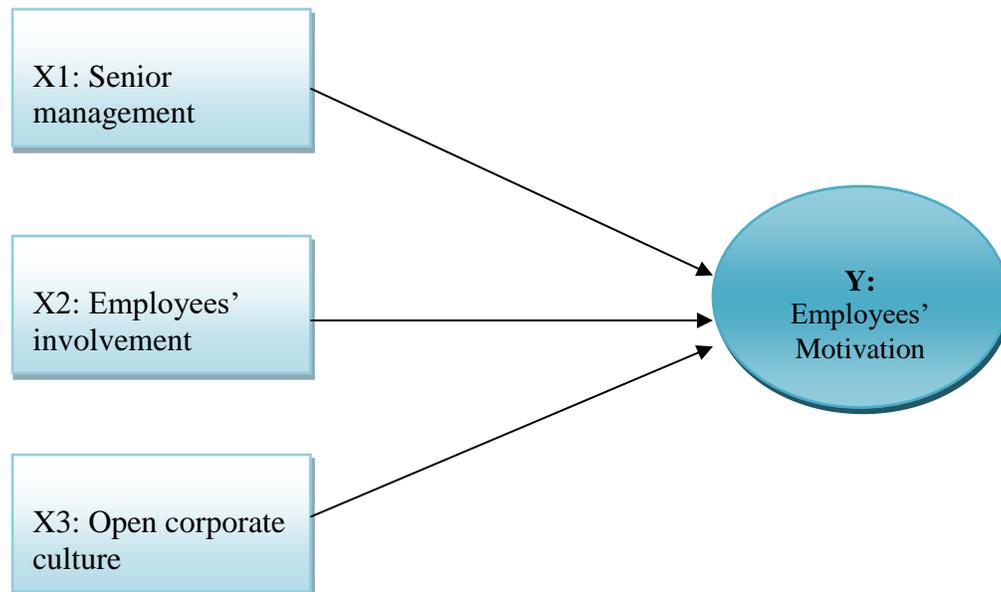
## **2.1 Theoretical Framework**

The motivational factor behind this study is to find the influence of senior management support, employees' involvement and open corporate culture on the motivation of employees especially working in educational institutes of Pakistan. From the previous research, sub-elements are used for measuring the dimensions of independent and dependent variables. IVs and DV are measured by keeping in view the below-mentioned dimensions:

**Table 1: Variable dimensions**

| Variable                  | Dimension   | Author                    |
|---------------------------|---|---------------------------|
| Senior management support | Education<br>Training<br>Involvement<br>Reward & recognition                  | Adebanjo and Kehoe (1999) |
| Employee involvement      | Empowerment<br>Encouragement<br>Team orientation<br>Capability development    | Adebanjo and Kehoe (1999) |
| Open corporate culture    | Communication<br>Organizational structure<br>Recreation                       | Adebanjo and Kehoe (1999) |
| Employee motivation       | Working conditions<br>Work contents<br>Personal interest<br>Leader/supervisor | Roshan (2005)             |

Figure 1 displays the theoretical framework of this study. Here in this study senior management support, employees' involvement and open corporate culture are considered as independent variables while employees' motivation is considered as a dependent variable. X denotes independent variables while Y denotes a dependent variable.



**Figure 1: Conceptual framework of the study**

### **Hypotheses**

Based on the literature review following hypotheses are made:

*H1: Support of senior management to employees has a significant positive impact on employees' motivation.*

*H2: Employees' involvement in decision making has a significant positive impact on employees' motivation.*

*H3: Open corporate culture of the organization has a significant impact on employees' motivation.*

### **3. Research Methodology**

Above mentioned literature mentioned that various studies show the influence of senior management support, employees' involvement and open culture on employees' motivation. The current study is conducted in public and private universities of Lahore based on surveys. Three public and two private universities of Lahore are used for studying the employees' motivation concerning senior management support, employees' involvement and open corporate culture.

#### **3.1 Research Instrument**

Data has been gathered through primary sources as well as from secondary sources. A self-administrated questionnaire has been used to collect primary data. The instrument uses a —5-point Likert scale from 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, and 5-strongly agree. These questionnaires show the opinions of employees concerning each question. The questionnaire included 25 questions and some respondents' demographic questions. Overall seven questions relate to senior management support, five to employees' involvement, six to open corporate culture and seven relate to employees' motivation. Data is collected only once so this study is based on cross-sectional analysis.

#### **3.2 Sample**

The study used non-probability sampling and it is further categorized into convenience sampling. The total population of three public and two private universities of Lahore is 1200 while the sample size of this study is 250. Respondents of this study are employees (all types of academic and non-academic employees). According to Nunnally (1978), at least 10 or more respondents per item of the questionnaire are reasonably adequate for sample size. Out of 250 questionnaires, 200 respondents are responded and make a response rate of 80 %.

#### **3.3 Reliability of Measure**

To identify the reliability of variables, Cronbach's alpha coefficient value for each variable is calculated. The accepted value of Cronbach alpha is at least 0.70 or above (Cronbach, 1951). By using SPSS-X statistical package Cronbach alpha values are calculated. Cronbach alpha values for all variables are: open corporate culture: 0.71;

employees' involvement: 0.70; senior management support: 0.78 and employees' motivation: 0.8. All Cronbach alpha values are well above the satisfactory threshold value of 0.70, it means the questionnaire has good reliability.

#### 4. Data Analysis and Hypotheses Testing

The data is first subjected to the principal components factor analysis (CFA) to check the validity and reliability of the different factors involved in this study. All the responses from the questionnaire are coded in SPSS software and hypothesis are tested with the help of correlation and regression analysis.

**Table 2:** Work experience in years

|       |          | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|----------|-----------|---------|---------------|--------------------|
| Valid | 1-5      | 154       | 77.0    | 77.0          | 77.0               |
|       | 6-10     | 40        | 20.0    | 20.0          | 97.0               |
|       | 11-15    | 3         | 1.5     | 1.5           | 98.5               |
|       | 16-20    | 2         | 1.0     | 1.0           | 99.5               |
|       | Above 26 | 1         | .5      | .5            | 100.0              |
|       | Total    | 200       | 100.0   | 100.0         |                    |

Table 2 shows that overall 154 respondents are having 1 to 5 years of work experience and 40 respondents are having 6 to 10 years of work experience.

**Table 3:** Descriptive statistics

|                           | N   | Mini | Max | Mean | Std. Deviation | Variance |
|---------------------------|-----|------|-----|------|----------------|----------|
| Age                       | 200 | 1    | 3   | 2.06 | 0.639          | 0.408    |
| Senior_management_support | 200 | 1    | 5   | 2.56 | 0.793          | 0.628    |
| Employee_involvement      | 200 | 1    | 5   | 2.36 | 0.734          | 0.539    |
| Open_corporate_culture    | 200 | 1    | 5   | 2.51 | 0.722          | 0.521    |
| Motivation                | 200 | 1    | 5   | 2.50 | 0.725          | 0.526    |

Table 3 presents that all N values are valid for dependent and independent variables. Mean values for senior management support, employees' involvement, open corporate culture and employees' motivation are 2.56, 2.36, 2.51 and 2.50 respectively. Standard deviation values for dependent and independent variables range from 0.722 to 0.793.

**Table 4: Correlation Analysis**

|   |                     | Motivation | Open Corporate Culture | Employee Involvement | Senior Management Support |
|---|---------------------|------------|------------------------|----------------------|---------------------------|
| Motivation  | Pearson Correlation |            | .564**                 | .554**               | .748**                    |
|   | Sig. (2-tailed)     |            | .000                   | .000                 | .000                      |
| Open Corporate Culture                                    | Pearson Correlation | .564**     |                        | .358**               | .640**                    |
|   | Sig. (2-tailed)     | .000       |                        | .000                 | .000                      |
| Emp. Involvement  | Pearson Correlation | .554**     | .358**                 |                      | .426**                    |
|   | Sig. (2-tailed)     | .000       | .000                   |                      | .000                      |
| Senior Management Support                                 | Pearson Correlation | .748**     | .640**                 | .426**               |                           |
|   | Sig. (2-tailed)     | .000       | .000                   | .000                 |                           |
| **Correlation is significant at the 0.01 level (2-tailed) |                     |            |                        |                      |                           |

It is reported by table 4, there is a positive correlation found between senior management support, employees' involvement and employees' motivation. On the other hand, there is also a positive correlation found between open corporate culture and employees' motivation. Correlation values normally remain in +1 and -1. A value near +1 shows a strong positive correlation and near -1 shows a strong negative correlation. The correlation value of open corporate culture with employees' motivation is 0.564 which shows moderate and positive correlation.

The correlation coefficient value of employees' involvement with employees' motivation is 0.554 which also shows moderate and positive correlation. On the other hand, correlation value of senior management support with employees' motivation is 0.748. It shows that senior management support has a strong and positive correlation with employees' motivation.

**Table 5: Regression Model Summary**

| Model | R     | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------|----------|-------------------|----------------------------|
| 1     | .796a | .634     | .628              | .442                       |

a) Predictors: (Constant), senior management support, employee involvement and open corporate culture

In the regression model table 5, R-value shows multiple correlations between independent and dependent variables. The multiple correlations between the predictors (senior management support, employees' involvement, and open corporate culture) and the dependent variable (employees' motivation) is 0.796, thus there is a strong positive correlation exist between the variables. R square value shows the ratio of variance in the dependent variable solely or jointly due to independent variables; the value of 0.634 shows that senior management support, employees' involvement, and open culture account for 63.4% of the variation in employees' motivation.

**Table 5(a): ANOVA**

| Model   |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|---|------------|----------------|-----|-------------|---------|-------------------|
| 1   | Regression | 66.301         | 3   | 22.100      | 112.994 | .000 <sup>a</sup> |
|   | Residual   | 38.335         | 196 | .196        |         |                   |
|   | Total      | 104.636        | 199 |             |         |                   |
| a) Predictors: (Constant), Open_corporate_culture, Employees'_involvement, Senior_management_support<br>b) Dependent Variable: Motivation |            |                |     |             |         |                   |

The results of the study and hypotheses testing are primarily based on the values of Table 5(a) and Table 5(b). ANOVA (Analysis of variance) table displays that the effect of independent variables (predictor) on the dependent variable is statistically significant which is below 0.05. ANOVA indicated that the model is reliable and best fitted at all conventional levels of significance. As per table 5 (a), the p-value is less than 0.05. So the overall model of the study is significant. As per Table 5(b), beta and standard error values are deviating from variable to variable. The significance of open corporate culture is low, i.e. 0.068

The study recommends that senior management support and employees' involvement have a significant positive association with employees' motivation. However, the analysis proved that the values do not support a significant association between open corporate culture and employees' motivation. This incongruity is comprehensible as open corporate culture hardly motivates employees towards work; there are some other factors that more significant impact on employees' motivation.

**Table 5(b):** Coefficients

|   | Model                     | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. | Hypotheses Testing Decision |
|---|---------------------------|-----------------------------|------------|---------------------------|-------|------|-----------------------------|
|   |                           | B                           | Std. Error | Beta                      |       |      |                             |
| 1 | (Constant)                | .270                        | .133       |                           | 2.026 | .044 |                             |
|   | Senior_management_support | .516                        | .054       | .564                      | 9.642 | .000 | Significant                 |
|   | Employee_involvement      | .273                        | .048       | .276                      | 5.736 | .000 | Significant                 |
|   | Open_corporate_culture    | .105                        | .057       | .104                      | 1.838 | .068 | Insignificant               |

a) Dependent Variable: Emp. Motivation

The results of the hypotheses are:

**H1:** Support of senior management to employees has a significant positive impact on employees' motivation.

**H2:** Employees' involvement in decision making has a significant positive impact on employees' motivation.

**H3:** Open corporate culture of the organization does not have a significant positive impact on employees' motivation.

## 5. Discussion

The current study has achieved its objectives of providing insights into the relationship between senior management support, employees' involvement, and employees' motivation. Both independent variables have a significant positive relationship with employees' motivation especially working in the education sector. Senior managers play a direct role in employees' motivation and they help them to achieve organizational goals (Jensen, 2018). According to the study of Barrick et al., (2015), employees are directly influenced by the senior managers' decisions and actions. Moreover, a supportive leadership style enhances the motivation of employees (Fiaz & Saqib, 2017). Bass (1985) proved that senior managers who give negative feedback to employees do not facilitate their personal growth and increase the motivation of employees. According to Yammarino and Bass (1990), only effective leaders help subordinates to raise their motivation toward extra efforts in the job. Leiter and Maslach (2002) proved that employees' performance and productivity can be improved if top management provides support and a suitable work environment for them. Hence, senior management support improves the motivation of employees and ultimately employees better perform their work responsibilities in the organizations.

Employees' involvement in key decisions helps organizations to enhance the motivation of their employees. Pascale et al., (1997) believed that the involvement of employees in the organizational decisions is the most important function of management in implementing change. Employees' involvement in business decisions has a positive and direct impact on employees' motivation and organization performance (Lawler et. al., 1992). Employees' motivation and job satisfaction are associated with the employees' perceived empowerment in decision making (Byza, Dorr, Schuk & Maier 2019). Thus, employees' satisfaction and motivation significantly depend on employees' involvement in decision making (Ukil, 2016). Chan et al. (2004) suggested that organizations should involve employees in decision making and process improvement activities by encouraging their participation.

According to data analysis, open corporate culture has an insignificant effect on the motivation of employees. Evidence shows that many other factors impact on employees' motivation more significantly. Those organizations that have a learning culture encourage and support a higher motivation level of employees (Pool, 2000).

## **6. Conclusion**

This research study is focused on senior management support, employees' involvement, open corporate culture and employees' motivation. Senior management support and employees' involvement have a positive relationship with employees' motivation. Hence, management support leads to the increased motivation of employees towards their work. So, supervisors or heads of the departments should support their subordinates and motivate them to participate in decision making. Motivated employees are more productive rather than productive employees are motivated. All level employees of the education sector should be considered as valuable assets of their respective organizations. This study further suggested that employees' motivation have key importance for the organization's success

## **7. An Implication of the Study**

The findings of this research study are context-specific but they are in line with the theoretical assumptions of senior management support and employees' involvement in decision making (Jensen, 2018 and Byza et al., 2019) but inconsistent with open corporate culture (Pool, 2000). This study has broader practical implications for researchers and academicians to better understand the factors that impact on the motivation of employees. The findings can be helpful for the educational institutes and senior management to understand the importance of employees' motivation, and how they can modify their practices to make it further result oriented. This study provides a strong base for existing literature and offers fertile areas for further future researches. Furthermore, educational institutes need to motivate their employees by giving them management support and empowerment. These institutes need to build an open culture that contains one to one communication and a supportive work environment.

The findings of this research study are less generalizable because the sample size is restricted to only educational institutes. Future researches may embrace some other

sectors and perform comparative analysis. Moreover, this study indicates a strong need to discover some other possible contextual factors that influence the motivation of employees.

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## **Annexure**

### **Senior management support**

- I believe that senior management is capable enough to understand employees' problems.
- Management believes that continual training and upgrading of employee skills are important.
- I believe that our management offers sufficient job training for employees.
- Strategic planning is ongoing and management involves everyone in the process to some degree.
- I believe that employees are promoted in a fair and honest way.
- My supervisor always recognized me for good work.

- My supervisor cares about my personal needs.

### **Open corporate culture**

- I believe that in my organization two-way communications is present.
- It is easy to communicate across different departments of the organization.
- The overall atmosphere existing in my organization is open and friendly.
- People in my organization have the opportunity to be involved in the decision-making process.
- I believe that my organization structure encourages the free exchange of information and ideas.
- Employees are always facilitated to go on trip for refreshment purposes.

### **Employee involvement**

- Most employees are highly involved in their work.
- Information is widely shared so that everyone can get the information he or she needs when it's needed.
- People work like they are part of a team.
- Teamwork is used to get work done rather than hierarchy.
- Work is organized so that each person can see the relationship between his or her job and the goals of the organization.

### **Motivation**

- I receive training frequently which teaches me something new.
- I am allowed to decide on the methods for doing the work.
- I believe that the management cares about the health and safety of employees.
- I get the opportunity to mix with my colleagues and to communicate on aspects of our work.
- I am given work in accordance with my qualifications and skills.
- My supervisor shows a genuine interest in motivating me
- I believe that my supervisor will support me if there are problems.

## Impact of Stress on Employees Performance in Public Sector Universities of Sindh

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### Abstract

The main objective of this study was to measure the “Impact of Stress on Employee Performance in Public Sector Universities of Sindh.” In every organization's performance of the employee is a debatable subject, to determine stress level in public sector universities and to predict employees' performance and exploratory research was conducted, by considering reward structure, and working environment as an independent variable and employee performance as a dependent variable. Stress felt by the employee during work was a major focus of study, The study findings reveal that stress is directly related to employee performance if stress level changes it also bring change in employee performance. Stress impact positively and negatively as result, increase in performance were seen when employee considered it positive, employees became enable to give their performance in a better way if stress is positive, and if negative stress is there it can inadequately affect the routine and job of the staff. It's observed that mostly stress impacts negatively on the performance of employees and it causes physical, psychological, behavioral and social problems. Research results revealed that reward structure has a positive and significant effect on employee performance; similarly, there is an important contribution of the working environment on employee performance too. Stress is an indispensable factor to study, the working environment and reward structure have a massive effect on employees as a factor of stress. A quantitative research technique was applied to conduct this study. A survey questionnaire was designed to collect responses. 5-point Likert scale used to measure the data. Responses were collected from 310 respondents to test the model relative to the impact of stress on employee performance, data of employees relating to all categories of management in public sector universities of Sindh.

**Keywords:** *Stress, employee performance, working environment, rewards structure.*

**JEL Classification:** I2, I23, O15, C83

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## 1. Introduction

The astonishing stress level into universities of the Public Sector has been extensively stated. The stress can be easily recognized into Public Sector universities through many ways like issues related to finance, managing anxiety, workforces as well as operating activities style problems, scheduling, programming, and Planning as well as time pressure, insufficient expertise in organization, and staffs unfavorable perceptions into universities of the public sector. Evrybody has know-how of stress but how one encounters stress that is depending on every individual. Stress has been an distinct factor through which one faces difficulties of life ultimately it is result of indifferent sitation encounters in life (Altmaier, 1983). It has been observed that pressure brings about agitation, tormention and despair a lot with the shadows of stress in life where in everysituation ordinary man face difficulties. Stress is a result of various elements and it is a mental and mental response because of fix oneself in a circumstance such response happens because of various factors(Franken, 1994).

It is noteworthy that stress can impact positively on workers behaviors and it can ensure thre quick progress related to day to day life and enable workers to employe innovative strategies. Stress is related with employees performance and mostly give positive results (Robbins & Sanghi, 2006). A man with stress faces many challenges like chance, orders, or request related with the result of the work that a worker can performs. Response toward stress relies upon individual judgment, climate occasion is considered as a test or hazard (lazarus & Folkman, 1986).

Stress and its outcomes are considered that it needs more attention for stress is a critical subject in a university life. Numerous researchers related to stress and pressure has been carried out for social learning of public to cope with challenging situations of stress in their individual life (Agolla, 2009).

### 1.1. Stress

Basically, stress is the response of person toward any specific problems, nowadays people get tension because of minor issues which can be easily faced by them think more and give more priority to that specific problem when a person cannot easily deal with problem then he put into stress situation and stress comes suddenly it can come from friends, family, relatives and etc. (Lee, 2002)

Stress can be defined as the difference in fulfillment of the demand for example if a person demands more and demand is fulfilled half then it would be half stress and stress can be positive and negative. If a person does work in stress to success in related work then it would be positive stress and if a person did not succeed in work into stress that would be negative stress (Meyer, 2000).

Stress can be short term and long term while long term stress is too harmful to the employee it can take his life. Stress has several symptoms like pain into shoulders and signs in behavior like nervousness and frustration or too much sleeping, drinking and talking and many more symptoms. The short term stress is less harmful then long term stress (Langrock, 2002).

### ***1.1.1. Rewards Structure***

There are two factors of a representative's inspiration to perform viably, the main idea is an impact on the probability of reward if employee contributes in more activities to performance worker will develop great results and efficient results. Reward structure is divided into two categories: first if an employee works efficiently and performs well consequently, he should be rewarded for his performance where second if he is not performing well, he should not be rewarded for his performance (Lawler, 1969).

Stress is a actually unavoidable truth. Wherever you are living, whatever you are doing, you can not escape from stress because in every activity you have to face the stress if you do not perform any work then you are suppose to face stress.

Stress is explained as as worker sudden reaction in any particular situation and ultimate result is affect on body as well as brain. however, these aren't fundamental components, if an employee misbehave suddenly or does not perform well and he always unaware of handling situation then he bound to face stress on the part employee. He handles the situation and overcomes his stress without any great loss then is sure to get high reward in shape of financial incentives. Furthermore, employee insecurity is depend on organizational performance to distributing work among employees to overcome stress on particular employees whose are facing the different stress, when he overcome it, again he get reward.

### ***1.1.2. Working Environment***

Explained by physiologist Walter Cannon, that actual stress is a response to a situation where we will decide either we have to fight the situation or flight from the situation. In 1925 based on stress examinations were originated into three phases. These phases termed GAS (General Adaptation Syndrome). Furthermore, these stages begin from stages of alert, opposition organizes as well as finished toward depletion arrange. Employee naturally faces stress in job at organization. Various assumptions have been formed related to the issue of workers stress and motivation behind these hypotheses was to clarify when people are facing stress situation (. Ahsan, 2009).

### ***1.1.3. Employees Performances***

Employees are key asset of any organization and their performance plays pivotal role for at workplace in the organization. In organization employees must be treated equally irrespective of position status and power. The fairness in dealing with employees can bring about positive results in job performance of employee in organization (Tahir et al, 2006).

Organizational achievement always depend on each and every individual's performance, if employee performs well then it will contribute in better performance of employee in organization and organization will make progress on the contrarily if an employee does not perform well then it will not be productive for in organization (Armstrong M. &., 2000).

Further, researchers are of the opinion that there is mutual relationship between job performance and employee conduct and these factors are responsible for wellbeing, progress and performance of organization (Summers J, 2005).

#### **1.1.4. Stress Reasons:**

There are numerous reasons behind stress; an individual can respond to stress mentally or physically, for example, evolving work, wedding, breakups in couples, friendship issues as well as other situations. Below are well-known reasons as well as causes for pressure.

The NIMH (NATIONAL INSTITUTE THE MENTAL HEALTH) takes notes of absolute most normal reasons for pressure, as:

1. Changing occurs in social activities or related to the life of social
2. After masters as well as graduation organizing for life achievements
3. Demands increasing for educations
4. Any changing occurs in relations of family
5. Insufficient Budgetary assets
6. Awareness related to sexual introduction and character of you
7. Being all alone in new condition

### **1.2. Problem Statement**

In organization many employees work sometimes they face multiple pressures and stresses because of there ineffective performance. Due to inefficiency in job performance mostly employees are seen as facing stresses and dissatisfaction. Psychological aggravation and frustration on the part of organizational management. Research recognizes, decides, indicates and connects reasons for stress and its impact on the job performance of workers.

### **1.3. Objectives of the Study**

- To decide the stress impact on representatives.
- To distinguish various job elements of stress as well as to explore dimension which creates anxiety in all company representatives.
- To examine the stress effect on the performance of related company representatives.

### **1.4. Research Questions**

- Does stress impact on development of worker performance?
- Does stress fundamentally linked among workers?
- How stress plays role on performance of worker development development?

### **1.5. Scope of the Study**

Stress as well as psychological disturbances is conscious and unconscious psychological feelings. It is also a Physical situation which comes after positive and negative pressure to overwhelm adaptive capabilities.

No doubt stress and psychological disturbance are connected and interdependent. The importance of research depends upon to identify the impact of stress and

psychological disturbance on the performance of employees. It is clear that stress is commonly noticed in all types of organizations.

Traditionally stress and psychological disturbance were considered unwanted behaviors of employees in the organization but increasing knowledge of people discovered the hidden mysteries of earth, so stress and psychological disturbance are recognized as diseases which must be cured. However Management looks busy in identifying them and creating problem solving provisions.

### **1.6. Hypotheses**

*H1. Reward structure has positive relationship with employee performance.*

*H2. Working environment has negative relationship with employee performance.*

## **2. Literature Review:**

Chock (2013) argued that Most of the university students and workers will have a high pressure in any place or territory when they are under this condition. The pressure on the employees either in organization or social cannot seem to bear especially for those who are nervous or lack confidence. Unfortunately, this had caused a high rate of employee and student committing suicide. And, it is still on an increasing number until today.

Explained by Dr. Bhavin in the 2012 year Stress, for the most part, happens when an individual surprise or takes any strain around beyond their ability toward anything. Each individual can be arranged in various kinds of identities like X personality as well as Y personality, X people are dependably in rush plus their restless these kinds of identities have rage to win and benefit chances, they are under pressure even into typical and minor conditions or circumstances while Y sort of identities are not progressively cognizant they would prefer not to work for accomplishment that is reason they would prefer not to take more weight into their psyche or any sort of stress.

According to Brown ZA, (2012) called attention to specific causes I-e: Stress can be made completely natural, hierarchical, people consider that outcome physiological, mental plus conduct changes into individual. Stress is an essential and unavoidable accompanying of everyday living-vital in light of the fact that without some pressure we would be languid plus emotionless animals, as well as unavoidable on grounds that it identifies with any outer occasion, be it pleasurable or nervousness delivering. An individual's reaction towards stress relies upon whether an occasion is evaluated as a test or a risk.

Explained by Douglas in year of 2011, Stresses are looked into associations that workers are operational into association plus worker has outer personals similar household issues because of related issues, because of unsettling influence they can't do this work into legitimate way, they can't accomplish the objective, they won't almost certainly deal with work, they will be in strain in association on grounds that representative won't give careful consideration.

Explained by Goff in the 2009 year about stressor which is general, it can be short-term as well as long-term. A short period is called acute stress and a long period is called chronic stress. Acute Stress involves quarreling with companions just as with

others, plus praising occasion. Unending pressure incorporates increment children ratio, you don't have openings for work plus you are stressed over cash implies absence related to monetary assets. Some of the time-intense, as well as unending pressure, occurs at the same time plus it is hard to deal with two circumstances in the meantime.

As indicated by Malcolm (2009) Everyday worker confronts distinctive stress types at their association or organizations. At point when any worker is on leave then different representatives need to do double work, they need to perform two folded obligations, plus for doing double work there is need of gifted workers as well as experienced workers, workers ought to be master, in event that representatives are not doing work in an appropriate way, this is unpleasant condition for administrators just as for workers.

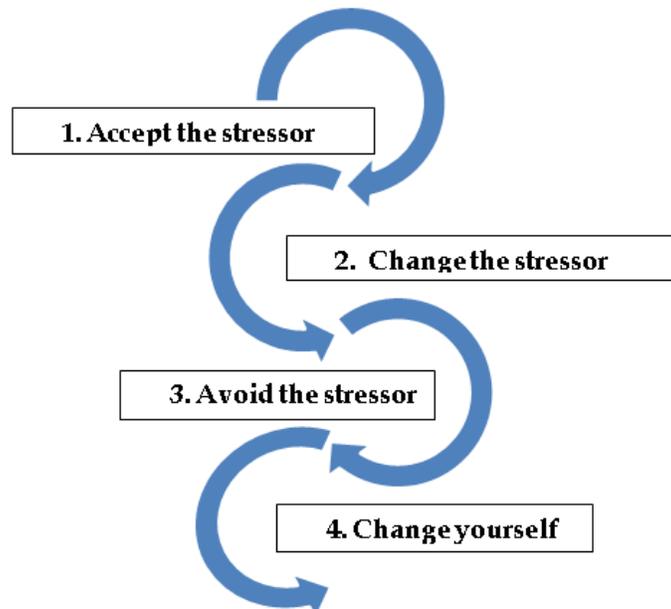
According to Bernstein, Penner, and Stewart, (2008) People in various callings as well as distinctive occupations they are dependably observed basic issues like nervousness, misery plus burnout, they are confronting diverse sorts of strains. As per their work, similar to few people are confronting natural pressure, as well as few people, are confronting conduct plus few people are confronting relational pressure, workers feel worried in the company as well as its effect on future of our life in additionally manager torture us physically or mentally.

Explained by Ongori H in 2008 year that side effects, as well as reasons related to stress into workplace, is awful on performance of employee work, worker achievement is not perform into legitimate way, plus workers connection is bad whoever individual is intrapersonal or relational, additional reasons are absence of assets, monetary assets, or circumstances plus as soon as unreasonable administrative work as well as excessive number of others.

According to Hancock (2008) said that there can be different stress reasons related to individual as close to home, mental, Physical, passionate reactions towards the upgrade.

As indicated by Cohen (2007) Often times pressure occurs into various spaces throughout our life, as an on-off chance that you are occupied in your work plus because of work your occasions are unpleasant, at that point you can prepare yourself with the goal that pressure isn't so huge. Be that as it may, if sudden changes come throughout your life, as all of sudden your youngsters become ill then it is an unpleasant circumstance for you. On another hand in event that you are focused or pressurized because of your colleagues or supervisor, as well as when you returned home yet the same time you feel strain plus upset then it impacts your family life too. Stress begins when we begin to consider circumstance as well as prerequisites all they shift association to association when there is high weight from performance side. Stress raises toward remain for continuing time as well as it dependent on five sizes (McLean, 1974).

Four Stress Strategies:



**Accept or acknowledge the stressor:**

Now and again we can't maintain a strategic distance from all the stressors; a few stressors are unavoidable, similar to the passing of an individual is an unavoidable pressure, this sort of stress we can't keep away in the light of fact that it is common.

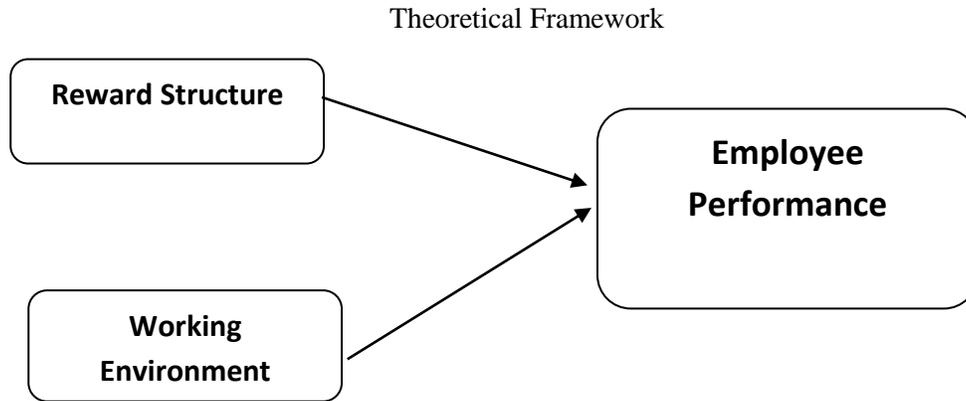
**Avoid or stay away stressor:**

Now and again we maintain a strategic distance from the worry because of some questionable circumstances explain by Knight in the year 2000. Occasionally employee with stress takes too much worry because something has happened in his life which we has never expect means unexpected things happen in our life, explained by ANG in 2006.

**Change yourself:**

Now and again there is need to make changes throughout your life, change is a major method to deal with or deal with the upsetting conditions.

Stress was examined alongside its two factors in particular; Reward Structure, as well as Working Environment. The performance of Employees was assessed on just a single measurement.



**Figure 1:** Framework for the study

### 3. Research Methodology

The purpose of this study is to analyze stress levels and their impact on employee performance in public sector universities of Sindh. The researcher designed a survey questionnaire and quantitative research method to discover the effect. Quantitative reviews/surveys are intended to fit the survey plan. The whole representatives (both administration as well as staff) of universities of public sectors, working at various dimensions were set as aim populace related to this investigation. The contract staff was likewise included. An aggregate of three hundred and ten workers over related universities were come toward thru examination survey. The research aims to look effect of stress level within workers of all dimensions of SALU Main Campus “Shah Abdul Latif University, SU Sindh University, LUK Liyari University Karachi, UFUK Urdu Federal University, Karachi, SMBBU Shaheed Muhtarma Benazir Bhutto University, Benazirabad as well as KU University of Karachi”. The investigation utilized both quantitative as well as a subjective approach. To distinguish outcomes related to the investigation, secondary plus primary foundations related to information gathering were utilized. Workers' performances, as well as stress, were estimated keeping in view the previously mentioned model of hypothetical. For information accumulation primary sources were utilized, a questionnaire survey was set up toward gathering information from respondents, forty-five items are in Survey together with 3 factors; working environmental, Reward Structure, and dependent variable employee performance.

### 4. Results & Discussions

The gathered information was interpreted into SPSS for finishing the investigation procedure. In investigation important is to examine information factually methodology utilized is quantitative. The information investigation process comprises

certain factual procedures connected like: Descriptive reliability analysis, factor analysis, plus correlation analysis as well as regression method.

**Table 1: Education**

|       |               | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------------|-----------|---------|---------------|--------------------|
| Valid | Bachelor      | 81        | 26.1    | 26.1          | 26.1               |
|       | Master        | 193       | 62.3    | 62.3          | 88.4               |
|       | Post Graduate | 35        | 11.3    | 11.3          | 99.7               |
|       | Doctorate     | 1         | .3      | .3            | 100.0              |
|       | Total         | 310       | 100.0   | 100.0         |                    |

**Table 2: Experience**

|       |              | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------------|-----------|---------|---------------|--------------------|
| Valid | Less Than 5  | 172       | 55.5    | 55.5          | 55.5               |
|       | 5 to 10      | 102       | 32.9    | 32.9          | 88.4               |
|       | 10 to 15     | 25        | 8.1     | 8.1           | 96.5               |
|       | 15 to 20     | 5         | 1.6     | 1.6           | 98.1               |
|       | More Than 20 | 6         | 1.9     | 1.9           | 100.0              |
|       | Total        | 310       | 100.0   | 100.0         |                    |

**Table 3: Gender**

|       |        | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------|-----------|---------|---------------|--------------------|
| Valid | Male   | 273       | 88.1    | 88.1          | 88.1               |
|       | Female | 37        | 11.9    | 11.9          | 100.0              |
|       | Total  | 310       | 100.0   | 100.0         |                    |

**Table 4: Age**

|       |              | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------------|-----------|---------|---------------|--------------------|
| Valid | Less than 30 | 125       | 40.3    | 40.3          | 40.3               |
|       | More Than 30 | 185       | 59.7    | 59.7          | 100.0              |
|       | Total        | 310       | 100.0   | 100.0         |                    |

**Table 5: Income Level**

|       |                      | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|----------------------|-----------|---------|---------------|--------------------|
| Valid | Less Than Rs. 10,000 | 10        | 3.2     | 3.2           | 3.2                |

|  |                   |     |       |       |       |
|--|-------------------|-----|-------|-------|-------|
|  | Rs. 10,01-40,000  | 149 | 48.1  | 48.1  | 51.3  |
|  | Rs. 40,001-60,000 | 113 | 36.5  | 36.5  | 87.7  |
|  | More Than 60,000  | 38  | 12.3  | 12.3  | 100.0 |
|  | Total             | 310 | 100.0 | 100.0 |       |

**Reward Structure:**

**Table 6: Reliability Statistics**

|                  |            |
|------------------|------------|
| Cronbach's Alpha | N of Items |
| .815             | 10         |

The above table shows the reliability of the reward structure, which is .815 means 81.5% reliability.

**Working Environment:**

**Table 7: Reliability Statistics**

|                  |            |
|------------------|------------|
| Cronbach's Alpha | N of Items |
| .848             | 15         |

The above table shows the reliability of the working environment, which is .848 means 84.8% reliability.

**Employee Performance**

**Table 8: Reliability Statistics**

|                  |            |
|------------------|------------|
| Cronbach's Alpha | N of Items |
| .791             | 7          |

This table shows the reliability of the table of employee performance, which is 79.1%

**Table 9: Variables Entered/ Removed**

| Model  | Variables Entered                                  | Variables Removed | Method |
|--|--|-------------------|--------|
| 1  | WORKING ENVIRONMENT, REWARD STRUCTURE <sup>b</sup> | .                 | Enter  |
| a. Dependent Variable: EMPLOYEES PERFORMANCE |  |                   |        |
| b. All requested variables entered.          |  |                   |        |

**Table 10: Model Summary**

| Model  | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|--|-------------------|----------|-------------------|----------------------------|
| 1  | .898 <sup>a</sup> | .806     | .804              | .44226244                  |
| a. Predictors: (Constant), WORKING ENVIRONMENT, REWARD STRUCTURE |                   |          |                   |                            |

Above the table of the model, summary highlights the model fitness. This shows that at which level model is supporting the entitled topic, from R Square column it clarifies that model contributes 80.6 percent whereas remaining output will be defined by some other variables which are not given here.

**Table 11: ANOVA**

| Model  |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|--|------------|----------------|-----|-------------|---------|-------------------|
| 1  | Regression | 248.952        | 2   | 124.476     | 636.393 | .000 <sup>b</sup> |
|  | Residual   | 60.048         | 307 | .196        |         |                   |
|  | Total      | 309.000        | 309 |             |         |                   |
| a. Dependent Variable: EMPLOYEES PERFORMANCE                     |            |                |     |             |         |                   |
| b. Predictors: (Constant), WORKING ENVIRONMENT, REWARD STRUCTURE |            |                |     |             |         |                   |

Researchers use ANOVA table to determine outcomes that independent variables give toward dependent variables in regression analysis. In this connection, it is very clear that job satisfaction is significantly predicted by predictors namely organizational culture related to the leader, Organizational culture related to employees. Its result is .000 as shown in sig. column.

**Table 12: Coefficients**

| Model  |                     | Unstandardized Coefficients |            | Standardized Coefficients | T      | Sig.  |
|--|---------------------|-----------------------------|------------|---------------------------|--------|-------|
|  |                     | B                           | Std. Error | Beta                      |        |       |
| 1  | (Constant)          | 5.130E-17                   | .025       |                           | .000   | 1.000 |
|  | REWARD STRUCTURE    | .903                        | .025       | .903                      | 35.648 | .000  |
|  | WORKING ENVIRONMENT | -.144                       | .025       | -.144                     | -5.684 | .000  |
| a. Dependent Variable: EMPLOYEES PERFORMANCE |                     |                             |            |                           |        |       |

This is the coefficient table it is treated another step of regression analysis, it helps researchers either hypotheses are accepted or rejected but all hypotheses are not tested through this technique .if the result lies in .000 to .05 then it will be treated significant

relation if it is more than .05 then it will be insignificant relation. In this way both variables have significant relation.

**Table 13: Correlations**

|  |                        | REWARD<br>STRUCTURE | WORKING<br>ENVIRONMENT | EMPLOYEES<br>PERFORMANCE |
|--|------------------------|---------------------|------------------------|--------------------------|
| REWARD<br>STRUCTURE  | Pearson<br>Correlation | 1                   | .120*                  | .886**                   |
|  | Sig. (2-<br>tailed)    |                     | .035                   | .000                     |
|  | N                      | 310                 | 310                    | 310                      |
| WORKING<br>ENVIRONMENT                                       | Pearson<br>Correlation | .120*               | 1                      | -.036                    |
|  | Sig. (2-<br>tailed)    | .035                |                        | .530                     |
|  | N                      | 310                 | 310                    | 310                      |
| EMPLOYEES<br>PERFORMANCE                                     | Pearson<br>Correlation | .886**              | -.036                  | 1                        |
|  | Sig. (2-<br>tailed)    | .000                | .530                   |                          |
|  | N                      | 310                 | 310                    | 310                      |
| *. Correlation is significant at the 0.05 level (2-tailed).  |                        |                     |                        |                          |
| **. Correlation is significant at the 0.01 level (2-tailed). |                        |                     |                        |                          |

#### 4.1. Hypothesis

| S.No. | Hypotheses  | Accepted | Rejected |
|-------|---|----------|----------|
| 1     | Reward Structure has a positive relationship with employee performance    |          |          |
| 2     | Working environment has a negative relationship with Employee Performance |          |          |

H1. The first hypothesis structure of reward has been proved that has positive connection toward the performance of workers within the organization that employee

performance can be highly improved by compensating the employees in a way as they can fulfill their needs and wants sufficiently

H2. The second hypothesis is rejected because the working environment has a positive impact on employee performance, the employee can perform better if the working environment is balanced and create easiness in employee job performance.

## **5. Conclusion:**

In conclusion of this research topic Impact of Stress on Employee Performance was directed with exploratory research for anticipating the worker Performance into General universities of Sindh which is related to the Public sector, the research found that whole 2 independent variables which are 1. Reward structure, 2. Working the environment are properly forecasting the performance of employees into universities. According to the outcome of the research that Reward Structure wants to be reviewed together with Administrative Support as well as Working Environment for improving the performance of employees into public sector universities. Besides a lot of research hole/mistake term was found in the outcomes which unmistakably expresses that Employee Performance should be exercise with the allowance of the over three factors. The investigation has additionally finished up the accompanying primary concerns for this examination and concludes that; it is seen that pressure has a critical positive connection with the performance of employees. Stress, as well as the performance of the employee, has circumstances and logical results relationship, if any adjustment in the anxiety will be, it will coordinate affect the performance of the worker. Some representatives take a feeling of anxiety as a positive change in their frame of mind and conduct implies pressure acquires positive change worker's performance. Some workers can't tolerate the stress feeling, it encourages disappointment. In such circumstances worker's vocation seriously influenced, their work performance plus some of the time they go under various kinds of dependence like a drink, smoking, watching motion pictures, pondering outside, plus so on. We can likewise say that worker's bad luck their physical, budgetary, mental capacities very effectively. Stress comes throughout everybody's life except one couldn't feel that pressure, as a result of pressure; it catches the sensing ability for a brief timeframe. This is likewise seen that push stays for a short period; over the long haul it diminishes its quality. Students don't know that long stress is destructive for them. There are a few manifestations of stress like pain into the shoulder as well as signs which are emotional like dissatisfaction, occasionally changing in behavior as well as attitude.

### **5.1. Recommendations:**

Stress ought to be handled carefully as it may not influence the performance of workers. One ought to minimize stress however much as could be expected via positive ways it might root change occurs positive into the performance of workers. Stress ought not to make disappointment; attempt to provoke the situation rather than ignorance. Representatives are recommended to concentrate on their performance plus they disregard stress as it may not influence their efficiency as

well as Employees ought to dependably be prepared to confront pressure circumstances, be proactive while confronting pressure. Continuously be in your faculties to treat the issues made by the feeling of anxiety. Representatives are recommended that dependably be quiet and affable during stress as you don't realize how much stress will be or how much longer it is. In between stress, try to cope with the stress by easily don't take it on high grounds, change mood or change activity or leave that work which gives you stress.

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