

**Exploring service recovery and justice theory  
in the Libyan Airline industry**

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degree of Doctor of Philosophy in the Faculty of Business,  
Education and Professional Studies**

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## Declaration

I declare that the work in this thesis was carried out in accordance with the regulations of the University Gloucestershire and is original except where indicated by specific reference in the text.

No part of the thesis has been submitted as part of any other academic award. The thesis has not been presented to any other education institution in the United Kingdom or overseas.

Any views expressed in the thesis are those of the author and in no way represent those of the University.

Signed..... Date.....

## **Abstract**

The services industry is the fastest growing sector of the global economy, and central to its success. This research is concerned with observations of service recovery and its impact on customer satisfaction, and focuses on recovery after service failure, including factors such as compensation, speed, and apology, and their effect on customer perceptions of justice, including distributive, procedural and interactional justice. This exploratory and explanatory study seeks to provide information and understanding of the impact of service recovery and customer satisfaction on each other, by investigating the effect of service failure and recovery on customer perceptions of justice in two Libyan airlines.

The theoretical framework of the study is derived from the literature, and is based on a set of interlinking relationships between elements of service recovery (apology, speed and compensation), their effect on customer perceptions of justice (interactional, distributive and procedural) and their logical outcome, which is customer satisfaction. Central to the framework is the conceptualisation of a model of service failure, perceptions of justice, and service recovery as a single continuous process which has as its outcome a level of customer satisfaction.

The study starts from the theoretical view point that justice is a necessary component of customer satisfaction, and uses a questionnaire to collect data relevant to the three issues (service recovery, justice and customer satisfaction), which appear in the theoretical model. A total of 584 questionnaires were distributed to the customers of two Libyan airlines at Tripoli's international airport, collecting data customer perceptions of service failure recovery efforts. The statistical package SPSS was employed to analyse the raw data and the findings represent a set of relationships established between elements of service recovery and perceptions of justice.

The study represents a contribution to knowledge about the relationships between service recovery and justice, using data collected in a developing country and in an industry of vital importance to national development yet opens to international competition. Theoretical and methodological contributions in the form of the study's model and questionnaire establish a basis for further research into this area in other developing countries and other industries.

## **Dedication**

This thesis is dedicated to my wife, and to my daughters – Shada, Nada and Janna. Without their unerring support and loving patience, this research project would have never come to fruition.

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# Chapter 1 Introduction

## Background

Services by their nature, and in contrast to manufactured goods, are intangible. Service providers place considerable emphasis on the management of service operations, however, failure cannot always be avoided: when such failures occur, it is necessary that service providers enact the appropriate actions to correct the failure. Hitherto, there have been relatively few studies concerned with the whole process of service failure leading to recovery of services, and the effect of service recovery efforts on decisions to exit or continue a customer relationship. In reality, service failures can often be overcome by adequate service recovery efforts, and according to research conducted by Wean, Betty and Jones (2004), the severity of a service failure is not always the major influence on customer satisfaction; rather the main impact is from the service recovery effort. The aim of this study is to investigate customer perceptions of the justice of these efforts, considered in the context of a theoretical framework.

In this study, customer perceptions of service offerings have been tested to provide an insight into the influence of recovery from service failure on customer perceptions of justice, with an outcome of satisfaction. Service providers place much emphasis on the management of service operations, because the consolidation of the full interaction between service providers and customers is difficult. Due to the properties of the service industry, failure cannot always be avoided by the service provider. When such failures happen, it is necessary that service providers take appropriate actions to correct the failure. Service research literature began to appear in the early 1980s in the form of personal descriptions of customer satisfaction and service recovery. It had expanded significantly by 1990, and by 2011 there were thousands of articles addressing customer satisfaction and service quality.

The model proposed by this study is based on a conceptualisation of service quality distinct from the service quality gap theory model of Zeithaml, Berry, and Parasuraman, (2003), which bases its measurement of satisfaction on the difference between the views of customers

in terms of the gaps between expectations and perceptions, in other words between what they expect a service to be and what it actually is. Since the late 1990s, theorists have been suggesting that customer satisfaction can be achieved through actions perceived to be very just, or actions that go beyond what is normally expected by customers. The presence or absence of these service actions creates or fails to create a perception of high levels of customer satisfaction (Oliver, 1999; Berry, 2003; Ha & Jang, 2009). In response to a service failure these actions can create a pleasant surprise or joy, which helps lead to the recovery of service, and the creation of satisfaction despite the occurrence of a service failure (Cranage, 2004; Del Río-Lanza et al., 2009). As in any study which concerns itself with perceptions of justice, the results of this study can be considered as an indicator of customer satisfaction and dissatisfaction across a range of service offerings, including satisfaction or dissatisfaction with the preliminary result of attempts at the retrieval of service failure, leading either to overall dissatisfaction or satisfaction.

In the provision of service transactions, customers form perceptions about the service they receive based on the three categories of justice: interactional justice, distributive justice, and procedural justice, (Oliver, 1999; Berry, 2003; Karatepe, 2006; Kandampully et al., 2007; Lin et al., 2011). They base these perceptions to some extent on the conformity of the service received with these categories. In fact, these three categories enable a customer to make an assessment of the interaction in terms of service satisfaction based on justice (Kim et al., 2009). Evaluation of elements such as service recovery, justice and satisfaction is achieved in the application of existing measures relating to justice and customer satisfaction with a service. Interactional justice is concerned with the customer's perception of how justly they feel they were treated in the service encounter. Distributive justice concerns the customer's perception of the equity of resource distribution, while procedural justice ensures that any complaints or service recovery issues are dealt with in a timely manner, and equitably (Del Río-Lanza et al., 2009).

As part of the background to this study, it is necessary to briefly discuss the important political changes that have overtaken Libya since the study was begun, and indeed since the field research was undertaken. In February 2011 a popular uprising against the regime led by Col. Gaddafi began in the east of the country, and after almost a year of sometimes intense fighting, this regime was overthrown and Col Gaddafi killed. At the time of writing (mid 2012) the country faces its first open elections for nearly fifty years, and uncertainty

surrounds the country's political future to some extent. However, the assumptions and recommendations made in this study are based on the supposition that political stability will be restored and that the programme of greater economic openness initiated before the uprising will continue. Some of the expenditure in infrastructure mentioned in this study has slowed, but it seems likely that business and tourism will soon become burgeoning area of economic activity in the future, and that the two airlines surveyed in this study will have key roles to play in both these areas.

### **The purposes of the study**

The purposes of this study are as follows:

- 1) To investigate the effect of service recovery efforts on customer perceptions of justice;
- 2) To investigate the role of justice in the formation of customer satisfaction or dissatisfaction;
- 3) To contribute to the development of more accurate theoretical models that explains the contribution of service recovery efforts in relation to customer (dis)satisfaction;
- 4) To provide information that could result in service businesses having a better understanding of how customers evaluate services, in order to guide the development of service improvement strategies, especially within the Libyan airlines which are the subject of this study.

### **The importance of the study**

The service sector is the fastest growing part of the world economy, and the impact of a successful or unsuccessful service sector has important and far-reaching implications for any country's economy (Bhandari, 2007). As a result of the service sector's exceptional growth, there is an increasing demand for companies to adopt the practices and expertise of industrial activities to enable them to provide services at a faster rate and at higher profitability. Companies are attempting to motivate a group of workers, creating a need to understand and improve the services sector, through improvements in research, recruitment, and training. This has resulted in intense competition in product offerings and has led to higher expectations with regard to customer issues, which in turn affect perceptions of justice and hence customer satisfaction. Unless companies provide customers with the best service, those who are not satisfied with the service provided by these companies will go to another

organization to fulfil their needs (Gronroos, 2003; Kim et al., 2009; Nikbin et al., 2011). The growth of the services sector is expected to continue well into the future (Hess, 2008). In view of the predicted increasing expansion of the service sector, it is necessary that corporate service systems, in both the sense of their material and non-material impact, have the ability to achieve customer satisfaction. Service system's staff communicate with both the company and its customers, while also interacting with the company's systems. In the example of airlines as service industries, which is the principal business focus of this study, these airlines require fixed service systems in addition to capital intensive equipment and facilities to be involved in their delivery system (Nikbin et al., 2011), and the service providers on the front lines know that the customer experience of these systems leads either to dissatisfaction or satisfaction. Accordingly, companies must have the information necessary to design systems to provide service that maximises customer satisfaction.

Because services are heterogeneous, intangible, perishable, and often produced and consumed at the same time (Gronroos, 2003), zero defects service is almost impossible to achieve. Furthermore, research indicates that only 5% to 10% of customers who are dissatisfied with a service offering complain (Hess, 2008). In the "silent dissatisfied" there are many who are content simply to defect from a service company and purchase their service need elsewhere in future, and more than 50% of customers who do complain feel worse about the provision of services by the company after the submission of complaint, (Bhndari, 2007). This indicates a failure by service providers in general to understand the needs of their customers and their expectations with regard to service recovery efforts.

A satisfactory resolution of service problems reduces the resentment felt by the customer, and therefore mitigates the impact of each service failure in terms of the company's efforts to attain profitability, (Severt,2002; Karatepe, 2006; Yuksel et al., 2006; Sparks & Fredline, 2007; DeWitt et al., 2008; Kim et al., 2009). In service companies, it has been estimated that the effect of a decrease of 1% in customer satisfaction, translates into a decline of 5% in return on equity (Lewis & McCann, 2004). In view of the significant impact of satisfaction on corporate performance, service companies need a service that operates within a strategy designed to achieve customer satisfaction, and thereby the company's sustainability (Brown et al., 2005; Johnson & Grayson, 2005).

Customer perceptions are important to companies, and this study is useful because it covers a wide range of customers, includes their perceptions of justice in terms of current research into

service recovery, and investigates its connection with satisfaction. It therefore extends the scope of previous research (see for example Bearden & Teale, 1983; Cohen, 2000; Andreason, 2004; Hess, 2008; Ha & Jang, 2009; Lin et al., 2011), especially in view of the fact that very few studies have been conducted into the relationships between service recovery and perceptions of justice anywhere.

Indeed, the researcher has not been able to find any such study based on Libya, any North Africa country or any Middle Eastern country. Furthermore, an extensive literature search has uncovered very few other studies (see Pang and Yeng, 2007) that capture the opinions of customers who submit complaints or expect recovery, and invites them to recall their service experiences in terms of the effects of individual elements of service recovery (compensation, speed, and apology), regardless of the level of satisfaction or dissatisfaction they felt, and none conducted in the airline industry in a developing country.

The research is therefore based theoretically on a relationship between service recovery, justice and satisfaction, but also conceptually on a relationship that is considered to exist between service recovery, the success of airlines and the strategic importance of this success to a developing country, as illustrated in figure (1-1) below:



**Figure 1-1: Conceptual model of the importance of service recovery in airlines to national strategic development**

## **Research Questions**

- 1-What are the effects of attempts at service recovery on customers' perceptions of justice and overall satisfaction within two Libyan airlines?
- 2-What are the implications of service recovery efforts for the Libyan airlines and for service businesses more generally?

## **Research Objectives**

- 1- To evaluate customer perceptions of the efforts of Libyan airlines to achieve the recovery of service failures.
- 2- To study the effect of efforts aimed at service recovery by the Libyan airlines in relation to their impact on customer perceptions of justice, and subsequently satisfaction.
- 3- To provide possible implications of service recovery efforts for the Libyan airlines and for service businesses more generally.

## **Research Subject**

This research seeks to collect quantitative data on the opinions of the customers of two Libyan airlines (Libyan Airlines and Afriqiah Airline) with regard to their reactions to the efforts of these airlines on service recovery, and the effects of these efforts on perceptions of justice, and customer satisfaction.

Libyan Arab Airlines and Afriqiyah Airways are the two largest operators of commercial aviation services in Libya. Both operate flights to a wide range of domestic and international destinations, and although they compete for passengers on many of the routes they operate, they are both state-owned and directed. Moreover, since 2008 these companies have been undergoing a process of merger, so that they will eventually represent two brands of the same holding company. The complex and expensive nature of the services provided by these companies makes them suitable for research of the kind conducted by this study, and their importance to the economy as a whole, and in particular to Libya's ambition to be an African transit hub for passenger and goods freight by both sea and air, make these companies important research subjects. As two of the largest service providers in Libya, they provide a complex and sophisticated system of service offerings catering to a wide range of domestic

and international customers, and therefore offer the richest research environment to collect data on Libyan efforts at service recovery and their effect on customer satisfaction. Furthermore, as companies providing international flights, and serving a variety of customers of many different nationalities, the data collected are thus enriched with a very wide range of viewpoints. The two airlines are introduced in greater detail in chapter three of this study, with background to the development of civil aviation in the Libya and its region, and an attempt to place these companies into the context of Libya as an economy in transition from a centralised command structure to more liberal, market driven economy competing internationally. This transition makes the airlines' efforts to improve their service offerings an urgent and vital consideration.

### **The effect of services recovery on customer satisfaction**

A review of the literature for this study resulted in the creation of a model to illustrate how efforts to retrieve customer satisfaction with a service after a service failure impact upon overall customer perceptions of a service offering and the company providing it. This is a form of measurement, and requires a theoretical model. The theoretical model starts with the entry of the client into the process of the restoration of service, possibly as a result of a customer complaint or some feedback elicited by the service provider, and shows the relationships between the two parties in the process (customer and provider) based on perceptions of three elements; (1) distributive justice, (2) interactional justice, and (3) procedural justice.

The measurement model is tested in the current study, with a focus on the failure of a service, and perceptions of justice in dealing with this failure, which affect customer satisfaction. One of the theories of this study is that the behaviour of service companies with regard to customer complaints, and the effects of perceptions of justice in connection with this behaviour, affects the extent to which it is possible to restore or rebuild customer satisfaction through the recovery of a service failure. So, while this study does not seek to measure levels of customer satisfaction, it is expected to be the end point of the service recovery process, and the research instrument tests its presence with each respondent. With this in mind, the study's analysis will attempt to identify which items of the elements of service recovery (speed, compensation and apology) were most influential on customer perceptions of justice, because these items will enable the study to make recommendations to Libyan service providers and

their equivalents in other developing countries with regard to research question two, thus leading to recommendations for the future training and recruitment of frontline service staff.

## **Methodology**

This study uses a survey method to collect quantitative data to measure the relationship between customer perceptions of the justice of service recovery efforts after a service failure, in addition to overall satisfaction with the company that made this service recovery effort. The researcher collected valid questionnaires for the study from 584 airline passengers, within the main international airport in Tripoli. Participants were selected at chance and comprised a cross-section of the passengers of the two airlines surveyed, including both Libyan and non-Libyan nationals.

The sampling method did not target individuals who had complained of a service failure specifically, and thus aimed to overcome the fact that many customers who are dissatisfied with a service do not complain about it (Hess, 2008). The survey approach enabled the researcher to determine the perceptions of the participants regarding their experience of a particular situation unique to that customer (Babbie, 2010). The use of a survey method supposed that the effect of items of service recovery (compensation, apology and speed) on perceptions of justice (interactional, distributive and procedural) could be measured, and that furthermore perceptions of individual items of justice with regard to a customer's flight experience could be measured, and that the influence of these perceptions on customer satisfaction or dissatisfaction could also be assessed.

Analysis of the raw data collected through the study's research instrument was conducted on a statistical basis using regression and correlation techniques available on the software programme SPSS 14. These analyses were intended to establish which data were significant and could be used to draw conclusions about the relationships between the key elements of the study, and in particular the effect of elements of service recovery on perceptions of justice.

## **Results of study**

Statistical analysis of the research data revealed that almost all questions within the research survey received high scores for reliability, at minimum than the 0.05 significance level. The results of the study indicate that customers overall were reasonably satisfied with the service of the airlines surveyed, and that efforts at service recovery were well regarded in terms of their justice generally. The data analyses are expected to establish causal relationships between items of service recovery and customer perceptions of justice, and the researcher anticipates that these findings will form an evidence base for concrete recommendations to the two Libyan airlines with regard to future directions in the recruitment, training and management of frontline service staff. As the first study of its kind to be conducted in an airline context in a developing country, the findings will provide a useful point of comparison with the few similar studies undertaken in developed countries. The theoretical model of customer satisfaction with service recovery arising from the literature review will be reassessed in the light of results of the survey instrument and form the basis for the expanded model of service recovery in the Libyan airline industry to be found in the concluding chapter, which will identify the elements of service recovery that had the greatest influence on perceptions of justice.

## **Contributions of the study**

The study conducted advances research into the path of service recovery and tests a model of the relationship between service recovery efforts and justice, which includes customer satisfaction as an outcome. In addition, it supports previous research in finding an important relationship between perceptions of the justice of a service recovery efforts, and customer satisfaction. The contributions of the study include:

1. This study is, as far as can be established, the first of its kind to be conducted in a developing country and including in its construction all the three elements of service recovery, perceptions of justice and customer satisfaction.
2. The study provides an overview of concepts and constructs related to the relationship between service failure and perceptions of the justice of service recovery efforts, and the effect as a result of this relationship on overall customer satisfaction.

3. By making explicit the connection between service failure, recovery, perceptions of justice and the ability to achieve customer satisfaction despite a service failure, the study adds to knowledge of services marketing and research.
4. The results of the study in terms of the elements of service recovery that are important to customers, and that change their perceptions of the service they receive, are applicable to many types of service provider.
5. Service providers who provide scheduled or time-constrained service products can apply these results in the development of effective training programmes, aimed at establishing strong and durable customer relationship service and marketing strategies.
6. The study enhances the understanding of the influence of customer perceptions of service recovery procedures through the measurement of their perception of distributive, procedural and interactional justice.
7. The study provides a model (see section the modified service recovery model) that illustrates the relationship between service recovery and justice, with the outcome of this relationship being satisfaction: this model makes explicit the linear relationship between service recovery efforts associated with compensation and customer perceptions of distributive, procedural and interactional justice; with a less significant relationship established between apology as an element of service recovery and interactional justice, while speed was not found to be statistically significant as an influence on the dimensions of justice. The model also sets the study results within a context, illustrated as a set of locational, demographic, sectoral, national, industry and economic influences within which the findings must be viewed.
8. This study could lead to increased profitability and sustainability for service providers who use these results to improve their service delivery, offering as it does evidence of the service recovery items most important to customers and thereby indicating areas in which service providers should target their resources.
9. This study is the first to investigate the relationship between perceptions of justice and customer satisfaction within Libyan airlines, or as far as can be ascertained within any Libyan or African service organizations, and as such it opens up a very wide field for further research in this area.
10. This study will enable the managers of the Libyan airlines surveyed to improve their decision making with regard to customer service initiatives, especially because it provides data from customers who did not complain and would therefore not have been previously targeted by airline satisfaction initiatives.

11. The study has the potential to generate benefits for the customers of the two Libyan airlines surveyed, and other airlines. The observational phase of the data collection indicated that these airlines were not collecting data on their customer's perceptions of the justice of service recovery efforts, or even on customer satisfaction in general. The data collected by this study and the conclusions drawn from them should indicate a need for these airlines to be closer to their customers, and able to react to service failures in a timely and consistent manner, representing at least a competitive parity with other airlines operating into and out of Libya.

### **Structure of this thesis**

In this first chapter, the researcher briefly introduced current issues surrounding the research questions, and a brief conceptualisation of the relationship between service recovery, perceptions of justice and the effect of this relationship on customer satisfaction, and hence repurchases intentions. This relationship is central to the purpose of the research, its importance, and the research questions, and is reflected in the study's methodology, results, and contributions. Concepts and structures used in the study will be defined in more detail in chapter four (methodology). The second chapter will be a discussion of the literature review and the basic theories and relevant literature on services and service recovery, and the chapter will provide a theoretical model. Chapter three provides important background information, introducing the two airlines surveyed and setting them in the context of a brief history of Libyan civil aviation. Chapter four gives the research methodology, and discusses the philosophy of the research, and provides an explanation of the measurement model and methods of data collection, such as statistical tests (and test the significance and consistency, gradient, and determines the methodology of the study design). Chapter five provides the findings of the data analysis, which are then discussed in detail in chapter six. This chapter also discuss issues surrounding the details of the results and their implications; the limitations of the study, and proposes research topics for the future.

## **Summary**

Customer satisfaction significantly affects company performance and therefore the economy. Much of the research exploring justice has been experimental and has focused on service failures and service recoveries. The researcher proposes that with its approach to dealing with complaints, a firm affects customer perceptions of justice, and that these perceptions of justice are a determinant of customer satisfaction. The study will now present a review of the literature concerning service failures, service recovery, justice (customer perceptions of justice) and customer satisfaction.

## Chapter 2 Literature Review

### Introduction

This chapter includes a review of the literature on service recovery, its effects on customer perceptions of justice, and subsequently on customer satisfaction. It begins with a summary of the evolution of the relevant literature, and provides a review focused on the literature concerned with the relationship between service recovery and satisfaction, and the various studies into the effect of service recovery on customer satisfaction, especially in relation to its impact on individual levels of customer satisfaction and customer opinion.

The treatment given to customers should ideally be provided in such a way that the customer wants to do more business with the organization. The ability to “get it right first time” in terms of service provision is thought to offer significant benefits to organizations in terms of both customer evaluations and costs of delivery (see for example Bitner, 1990; Heskett et al., 1997; Hocutt et al., 1997; Severt, 2002; Bell and Zemke, 2003). In practice, it is often difficult to imagine how service providers can attain such a goal. The service encounter is a marketing phenomenon involving social interactions. Within the area of service recovery, perceived justice or fairness is increasingly identified as a key influence in the formation of customers’ evaluative judgments of the recovery process (Baron, 2005). By definition, it differs from social interaction on the grounds that a service encounter is a purposeful, short term professional interaction between the service provider (or the agents of the service provider), and the customer or the client, to deliver services, where the two parties are not familiar or related to each other on personal grounds (Kandampully & Sparks, 2007; Kim et al., 2009).

However, in various circumstances there may be a temporary status difference between the two parties (Cranage, 2004; Nikbin et al., 2011). Taking these differences into account, a service encounter becomes a complex affair as both the participants involved seek satisfaction from the encounter/interaction (Kandampully & Sparks, 2007; Kim et al., 2009). The service delivery process seeks to deliver what is expected by a customer through what is considered as necessary by the agents of delivery.

This elaborates to a paradigm where the objective of service management is to achieve customer satisfaction. Although firms continue to improve their services, service failure is inevitable in all service contexts even for firms with world-class service systems (Zeithaml, Bitner & Gremler, 2003). The intangible nature of service and the necessary participation of people to deliver services make the aim to provide flawless services an unachievable task, and zero defect service delivery an unachievable goal. It has to be accepted that in real world situations, if there is service there are chances of failure too.

The way in which an organization deals with its customer complaints is pivotally important and it is one of the most crucial methods to control service delivery. But these methods sometimes have limited relevance as they are often performed after the service interaction has been completed. Also, service failures might prove to be expensive because they can lead to customer defection (Hess, 2008) and negative word-of-mouth (Lin & Wang, 2006). The instance of service failures and failed service recovery efforts lead to the customer switching behaviour in service organizations (Karatepe, 2006; Yuksel et al., 2006; Sparks & Fredline, 2007; DeWitt et al., 2008; Kim et al., 2009). Although most firms aim at zero defect service delivery, failures in a service process cannot be ruled out as the service delivery and the consumption of service is affected by a variety of factors (Schoefer and Diamantopoulos, 2008) which include:

- 1) The process by which service is delivered.
- 2) The mode of delivery.
- 3) The means of delivery.
- 4) The physical factors and
- 5) As it involves people, the service provider (and its employees) as service generators, and the customers as partial employees in some cases, to generate service.

Although failures occur in most firms, the method of recovery differentiates the more successful firms from the lesser. There is a considerable amount of evidence stating that a good recovery process almost always generates a positive impact on the purchase behaviour of the customer, positive opinions and reviews by the customer and customer loyalty (Lewis

and McCann, 2004). The service recovery process has a considerable impact on customer response as the customer is more vigilant while experiencing a service recovery than when experiencing the same service prior to service failure, and is more dissatisfied as the result of a failed recovery effort than from a service failure at the first place (Booms & Tetreault, 2002; Berry & Parasuraman, 2003; Del Río-Lanza, 2009; Hsin-Hui et al., 2011). Therefore, for a study considering the impact of efforts at service recovery on an organization as prestigious and influential as a national airline, (which has the potential to affect perceptions of Libya in an international context), it is necessary to consider the relationship between service failure, which is to some extent unavoidable in an industry as complex as civil aviation, service recovery, perceptions of the justice of this service recovery, and the consequent satisfaction of the customer with the service recovery effort.

## **Background**

“To err is human; to recover divine” (Hart, Heskett and Sasser 1990, p. 156). Service recovery performance follows failures in service delivery. The focus of this research is on failures that are reported directly by the customer to the firm, because only in this case does the firm have the opportunity to perform an efficient service recovery (Del Río-Lanza, 2009; Kim et al., 2009). Various services are human-intensive in nature, and result in heterogeneous outcomes when compared to the machinery of production processes (Wirtz and Mattila, 2004). In a labour-intensive service context, it is much more likely that there are failures in service delivery. Also, the fact that services are simultaneously produced and consumed and that there is co-production (Berry 2003) makes it impossible to guarantee a 100% error-free service (Brown, Fisk, & Bitner, 2002; Del Río-Lanza, 2009). In other words, in services, it is impossible to guarantee “zero defects” (Lewis & McCann, 2004; Kim et al., 2009).

In an organization aiming to minimise its exposure to the expenses involved in service recovery the initial aim should be to identify and remove all probable sources of failure (McCull-Kennedy, Daus & Sparks 2003) in order to minimise service failures. However, once these failures occur, it is crucial to provide effective service recovery, since customers respond strongly to service failures (Bailey & Bonifield, 2010) and are frequently more dissatisfied with the inability of the organization to recover than with the service failure itself (Christopher, Payne & Ballantyne, 2000; Torres & Kline 2006). Therefore, service marketers are urged to understand how to guarantee an efficient recovery following failure, in order to

minimise customer dissatisfaction (Hess, Shankar & Klein, 2003). As previous research has shown, inappropriate service recovery (e. g. failure to apologise, offer to compensate, or provide an explanation) is often associated with very unsatisfactory service experiences for almost half of the respondents (Kim et al., 2009). In fact, according to Kennedy-McColl & Sparks (2003), over half of customers have stronger negative feeling towards the company after the service complaint. In these cases, the attempt to recover from the failure resulted in a further failure escalation (Kennedy-McColl and Sparks, 2003). The customer becomes even more dissatisfied with the organization as it fails not only when providing the service but also in the recovery process (Kennedy-McColl, Catherine & Beverley, 2003). Bitner, Booms & Tetreault (2002) name the aforementioned a 'double deviation' from customer expectations of the service provider's role.

In contrast, when recovery comprises a tangible compensation (e.g. upgrade to a better room, offer of a free flight ticket, or a free meal/drink, etc.), customers are usually highly satisfied, despite the initial service failure (Bitner, Booms, & Tetreault, 2002). Also Nikbin, Armesh & Jalalkamali (2011) argue that a superior recovery process can transform dissatisfied customers into customers with more goodwill towards the service provider. The authors propose and discuss several measures for guaranteeing successful recoveries. These include: a) a measure of the costs; b) break the silence; c) anticipate needs for recovery; d) act fast; e) train employees; f) empower the frontline, and g) close the loop (for a detailed explanation, see original study). Within the context of effective recoveries, the "service recovery paradox" emerged. The underlying argument is that the customer evaluates the encounter with the service provider more satisfactorily after the failure has been corrected than if the failure had never existed (Kim et al., 2009; Del Rio-lanza et al., 2009). In other words, the service recovery paradox suggests that post-recovery satisfaction is higher than pre-failure satisfaction (McColl- Kennedy & Sparks, 2003; Jones et al., 2003).

The service recovery paradox is characterised by mixed findings which may be explained by the need to take into account the severity of the service failure (Jones et al., 2003). The authors suggest that the service recovery paradox may hold only for minor failures that are resolved extremely well, but not for more severe failures.

In conclusion, due to the fact that service recovery may be an opportunity to enhance customer satisfaction, improve customer loyalty, as well as to establish long-term customer

relationships (Ha & Jang, 2009), it is crucial for an organization to assure an efficient recovery. However, before attempting to assess efforts at service recovery and relate them to issues of justice and satisfaction, it is necessary to consider what a service is, and what features distinguish it from other transactions.

## **The Nature of Service**

Service is quite difficult to define precisely. This is because within a service phenomenon, a tangible good can still be considered part of the service offering (Gronroos, 2003). An example is a television rental or a coach service. The service offering here is in the form of a lease agreement for the use of electrical goods or the bus respectively. A range of definitions of services is necessary so that they reflect the nature of services offered by most service firms (Gronroos, 2003, p. 11). Examples of such definitions include: “Services represent either intangibles yielding satisfaction directly (transportation, housing) or intangibles yielding satisfaction jointly when purchased either with commodities or other services” (Robinson, 1978, p. 76). The same writer later clarified the definition further: “A service is an activity offered for sale, which yields benefits and satisfaction without leading to a physical change in the form of a good” (Robinson, 1978, p. 93). A more concise definition is given by Kotler: “A service is any activity or benefit that one party can offer to another that is essentially intangible and does not result in the ownership of anything” (Kotler, 1988, p. 480). Gronroos widened the scope of the definition, and it is this one that best seems to describe interactions between and airline and its customers: “A service is an activity or series of activities more or less intangible in nature that normally, but not necessarily, take place in interaction between customers and service employer and between physical resources or goods and a system of the service provider which are providing a solution to customer’s problems” (Gronroos, 2003, p. 15).

Thus the above definitions show that services are more or less intangible; they are activities or a series of activities; that customers participate in their production and consumption (inseparability) and that service performances vary from one provider to another (heterogeneity) and that the intangible nature of the service will cause customers to perceive the service in a very subjective manner.

Variability in performance is a familiar aspect of a service. Since services are considered performances, consistency of the personnel in providing the service is difficult to achieve (Robinson, 1978). The same type of service might be perceived differently by the customers depending on what service experiences they have had at the interaction. Similarly, customers will normally consider the presence of perceived risk in the purchase of a service (Goodwin & Roos, 1992; Tax et al., 1998; Boshoff, 2005; Gustafsson, 2009). In this context it is necessary to consider the customers of the two airlines studied: Libyan Airlines and Afriqiah Airlines. Their customers can be divided into two groups, international customers and Libyan nationals. While these groups may bring a different range of experiences to their perceptions of service quality, they are dealing with the same personnel and receiving the same services, and therefore their perceptions are equally valid and useful to this study.

## **Evolution of Services Marketing Literature**

Services represent a large and growing proportion of the global economy, and there has been a shift from a manufacturing-based to a service-based economy. At a national level, the need to remain competitive requires that this change be understood in terms of services marketing and necessitates additional service research. Firstly, marketing theory purists (Lin, 2007), held to the notion that the goods and products-based theories would be generally usable in service businesses. In part, the study was extendable in application; however, problems in the service businesses began to prove that the differences between providing goods and providing services required further investigation. This further investigation has led to the development of the services marketing literature, a unique body of knowledge that developed quickly and continues to flourish.

The uniqueness results from several joint efforts. Service industry executives and academicians united to produce literature that deals significantly in managerial issues, and the interactional nature of the service sector inspired a joint effort between operations and human resource management teams, creating a highly interdisciplinary services marketing cadre. The literature has reflected an international effort from its beginning, especially among Scandinavia, the United Kingdom, France, and the United States (Fisk & Coney, 1982; Brown & Bitner, 1990). Academicians have referred to three stages of evolution of the services marketing literature: “Crawling Out (Pre-1980), Scurrying About (1980-1985), and

Walking Erect (1986-now)” (Fisk et al., 1982 p. 63). Services’ marketing is now a well-respected academic field.

The research topics covered in the literature which are most relevant to this study include 1) service quality (Swartz & Brown, 1989; Carmen, 1990; Band, 1991; Bolton & Drew, 1991; Cronin et al., 2000; Parasuraman, Zeithaml & Berry, 2003); 2) customer satisfaction (Bitner, 1990; Crosby, Evans, & Cowles, 1990; Olivia & MacMillan, 1992; Shostack, 1992; Bitner et al., 2002). These authors provide a conceptual context in which to consider the topics central to this specific research, which are service failure and service recovery (Smith and Bolton, 1998; Tax et al., 1998), justice theory (Blodgett et al., 1997), and the ways in which firm performance is linked to customer satisfaction (Rust, Zahorik, 1993; Kim et al, 2009). All of this literature contributes to the study by providing conceptual input to a framework for the relationships between service recovery, justice and customer satisfaction, and the questionnaire which will investigate these relationships, (see figure 2.4).

## **The Definition of Service Recovery**

In order to understand the relationship between the three main elements of this study (service recovery, justice, and customer satisfaction), it is necessary to describe each of them in turn. Service recovery has been defined by various authors in their own terms; for example, Johnston and Fernell (1991, p. 267) describe service recovery as “seeking out and dealing with service failures.” Whereas Zemke and Bell (2003, p. 32) describe it as “a process with a beginning and an end”, and state that “service recovery is a thought-out, planned process for returning aggrieved customers to a state of satisfaction with the organization after a service or product has failed to live up to expectations” (Zemke & Bell, 2003, p. 34). It is looked at as a process; in the words of Bell “Effective service recovery is a planned and managed event to satisfy a customer after service failures” (2003, p. 33). It is seen as a means to retain customers after failure. In other words, service recovery can be thought of with an ultimate goal of driving the motivation of customers to continue purchasing a firm’s services and products (Johnston, 1997; Seawright et al., 2008). If customer loyalty is not achieved, then the next immediate option is to minimize the damage caused (Johnston, 2005; Sparks & Fredline, 2007; Mattila et al., 2010).

In a descriptive manner, Parasuraman, Zeithaml and Berry (2003) looked into the cause of service failures and put forward that service failure is said to occur when the performance of service falls outside the 'Zone of Tolerance' of the customer (Lin et al., 2007; Kandampully & Sparks, 2007, p. 44). The zone of tolerance is the gap between the adequate and the desired level of service expectation (Parasuraman, Zeithaml & Berry 2003). The adequate and the desired levels of expectations are the beliefs of the customer. Hence, the width of the tolerance zone may decrease or widen from customer to customer, and understandably from situation to situation. Kelly and Mark (2002) suggest that the regular or the loyal customers have a narrow tolerance zone as they have higher expectations of the firm. As a result the firm's service recovery tactics need to be carefully framed to draft service recovery strategies when service failures occur, and to offset the negative reaction of service failures. For the retention of customers, firms must understand the expectations the customer has with regard to the service to begin with, and to appreciate that these expectations may vary from one group of customers to another, and indeed from customer to customer.

The implications of this for the present study were interpreted in terms of the selection of industry to investigate, and the area of customer satisfaction being explored: the Libyan airline industry is one of the most technologically advanced in the country and serves a wide range of both foreign and domestic customers; as such, it provides a rich research environment for investigating customer satisfaction. Moreover, as a complex service industry, involving the movement of large numbers of people and their luggage on very tight schedules, it inevitably produces a quantity and wide range of service failures. This study is concerned to establish what effects efforts at recovery from a service failure have on the perceptions of customers with regard to justice, and whether service failure followed by a well-perceived service recovery can lead to customer satisfaction. For this purpose, the environment of the Libyan airline provides the best national context within which to explore this notion.

## **The Concept and Measurement of Service Recovery**

Service recovery comprises a set of actions carried out by the service organization and its employees in order to recompense a customer for the losses incurred as a result of a service failure (Gronroos, 2003). Among these actions are economic resources in the form of compensation (e.g. refunds/reimbursements, price discounts, free products or services,

upgraded services) or social resources (e.g. apologies, acknowledgement of the problem, management intervention) (Kelley, Hoffman, & Davis 1993; Smith, Bolton, & Wagner 1999). An equivalent conceptualisation of service recovery is provided by Weun, Beatty, and Jones et al. (2004), who based their definition of service recovery on two concepts: a) service recovery outcome, i. e., a tangible outcome, and b) service recovery processes, i.e. the way a service provider deals with a failure throughout the recovery process. An alternative to Gronroos' (2003) definition of service recovery is that of Smith, Bolton, and Wagner, (1999) in which service recovery is regarded as a 'bundle of resources' employed by the service organization in reaction to a failure. In line with the abovementioned research, recovery performance is investigated in this study as a reactive recovery situation, in which the customer's complaint instigates the recovery action (Smith, Bolton, &Wagner, 1999). In terms of measurement, this study differs from the majority of research on customer satisfaction by measuring perceptions of the justice of service recovery efforts, rather than simply service itself. In particular, the study differs from the research position adopted by Smith, Bolton and Wagner in surveying airline customers in a random sample about service failures they had actually encountered, whereas Smith, Bolton and Wagner devised a set of scenarios to which customers of certain restaurant and hotel chains had to imagine responses. Furthermore, their study includes a model that takes account of mental reasoning principles such as resource exchange, and seeks to provide a 'fit' between the magnitude of a service failure and the recovery effort made to overcome it. This study, as the first of its kind conducted in Libya, takes a more exploratory approach, and seeks to quantify relationships between service failure, recovery and perceptions of justice as a basis for further research that may be more qualitative in nature. As a quantitative study it will employ a Likert scale to measure satisfaction with airline company efforts at service recovery, in a method similar to Peng, (2007). The way in which this study goes beyond previous studies into satisfaction with service recovery is by including the dimensions of justice (procedural, interactional and distributive) and by investigating which dimension has the greatest impact on customer satisfaction.

## **Consequences of Service Recovery Performance**

The main theoretical framework associated with service recovery seems to be that of justice theory (Tax et al., 1998; Mattila, 2001). It has been argued that the recovery effort is an antecedent to customer evaluations of fairness show that different service recovery attributes

(i.e., compensation, response speed, and apology and recovery initiation) affect a customer's evaluations of distributive, procedural, and interactional justice. More specifically, they have found that:

- 1) Compensation has a positive impact on perceptions of distributive justice;
- 2) A speedy recovery has a positive effect on perceptions of procedural justice;
- 3) An apology has a positive impact on perceptions of interactional justice;
- 4) An organization-initiated recovery has a positive effect on interactional justice.

In terms of moderating effects, the magnitude of failure moderates the relationship between the service recovery effort and both interactional and distributive justice (Casado-Díaz et al., 2006; Mattila et al., 2010). It is clear that customers evaluate service recovery by analysing both the outcome - i.e. "what is delivered"- and interpersonal treatment - i.e. "how it is delivered"- they are given throughout the process (Tax, Brown & Chandrashekar 1998; Smith, Bolton & Wangner, 1999; Weun, Beatty & Jones, 2004, p. 134). Consequently, effective service recovery - both in outcome and interpersonal treatment terms guides positive customer attitudes and behaviours (Weun, Beatty & Jones 2004).

Broadly speaking, a consequence of organizational recovery efforts is customer satisfaction with service performance after the recovery (Oliver 1980). In other words, the better the recovery performance, the higher the post recovery satisfaction will be (McCullough, Catherine & Beverley, 2003). In particular, Kennedy- McColl & Sparks (2003) have demonstrated that the behaviour of the service providers, namely giving voice to the customer, apologising, showing concern or empathy, and offering compensation are positive predictors of customer satisfaction. Also Hess, Shankar, and Klein (2003) have found that the quality of recovery performance- i.e., the degree of compensation offered by the service provider after failure has a strong positive correlation with customers' satisfaction with service performance after recovery. This study will seek to assess the effect of efforts at service recovery on customer satisfaction, and will investigate the significance of the factors of justice (procedural, distributive and interactional) on customer perceptions of the service recovery effort.

## **Service Recovery and Service Failure Literature**

Service failure and recovery play important roles in determining service quality and customer satisfaction (Smith & Bolton, 1998). Much of the early marketing writing about failure and recovery was anecdotal; it suggested things to do to fix a described service failure. Suggested actions included apologizing, listening, providing a fast solution, atonement, keeping promises, and following up (Firnstahl, 1989; Hart et al., 1990; Bell, 1999; Bell & Ridge, 1999; Zemke & Bell, 2003; Mattila et al., 2010).

Anecdotal research helps reveal a topic to management and highlight its importance (Kelley & Davis, 1993). It can inspire theoretical developments that yield empirical literature, but because the only information available was from anecdotal reports, theoretical discussions regarding service failure and recovery were limited. Numerous researchers (e.g., Edwards and Skinner, 1992; Kelley et al., 1993; Bitner et al., 2002; Hoffman et al., 2003) categorised and classified service failures and recoveries using Flanagan's critical incident technique (Hocutt et al., 2006). Bitner et al. (2002) categorised airport service encounters into three behaviour classes: **1)** employee response to service delivery system failure, **2)** employee response to customer needs and requests, including the further classifications of special orders or requests and admitted customer errors, and **3)** unprompted. They identified favourable and unfavourable recoveries (i.e., actions that satisfied or dissatisfied) and their causes. Their results suggested that acknowledgment of the service failure, apologizing, explaining the failure, and then giving tangible offerings constituted an acceptable solution that accomplished service recovery. Hocutt et al., (2006) confirmed that distributive justice offerings such as free food, gift certificates, and discounts were critical to service recovery in restaurant service failures.

In a retail setting, three major behaviour subgroups classes have been identified. The subgroups included: policy failures, slow or unavailable service, system pricing failure, packaging errors, out of stock, product defects, alterations and repairs, and bad information. Ha & Jang, (2009) also classified acceptable service recoveries by discount, correction, manager/employee intervention, correction plus, replacement, apology, and refund. They classified unacceptable service recoveries by customer-initiated correction (i.e., reactive recovery), store credit, unsatisfactory correction, failure escalation (i.e., double deviation), and no action by service personnel.

Hocutt et al., (2006) offered a failure and recovery typology specific to restaurants. They used Bitner's three major behaviour classes and somewhat different subgroups in their restaurant-specific inquiry. Their behaviour included: product defects, slow or unavailable service, facility problems, unclear policies, and out-of-stock, as conditions that were common failures in the behaviour class. Food not cooked to order and requests not honoured on delivery were the only two reported failures in the second behaviour class. The third behaviour class included inappropriate employee behaviours, incorrect food orders, lost orders, and mischarged orders. Hoffman et al. classified service recovery strategies into free food, food discounts, coupons, management intervention, food replacement, correction of failure, and apology. They identified the service provider's failure to respond as unacceptable to the customer and as leading to dissatisfaction and possibly defection. Although recovery was most difficult in cases of facility failures and inappropriate employee behaviours, Hoffman et al. (2003) confirmed that recovery could be achieved from most failures, regardless of the failure type or magnitude.

In terms of the relevance of the study of Mattila et al. (2010) to this research, clearly the finding that service recovery was possible in almost all instances is important. However, there is also a difference between a visit to a restaurant and an airline flight in terms of their relative importance to the customer's life. The former is essentially a recreational activity, of short duration and modest expense, whereas most airline flights will involve much expense and involve a larger emotional as well as investment by the customer. It therefore follows that satisfaction through recovery of service failure is likely to be harder to achieve.

Research on service failure and recovery has confirmed the impact of service recovery on customer satisfaction, word-of-mouth communications, and repurchase intentions (Clark, Kaminski & Rink, 1992; Keaveney, 1995; Spreng et al., 1995; Bitner, 2002; Gilly & Gelb, 2004; Karatepe, 2006; Hsin-Hui et al., 2011). Gilly used quality and speed to demonstrate the importance of customers' perceptions of service recovery efforts in achieving customer satisfaction. Bitner found that customers attribute higher service encounter satisfaction to the service provider who offers a systematic response to service failure. Zeithaml et al. (2003) confirmed a positive relationship between service quality and service recovery.

Service failure and recovery had therefore been related to process (procedural justice), output (distributive justice), interaction (interactional justice), and their effects on recovery outcome. Wang et al. (2011) reported the interaction effects between the process and outcome of service recovery. Their experiment represented the justice framework across four different service business types. They measured the service recovery outcome as favourable or unfavourable and manipulated the process by introducing the conclusion of an apology from the business and stipulating that the apology was delivered in a high (loud, inconsiderate, hostile, and rude) or low (soft, kind, gentle, polite, and considerate) voice. Results confirmed the importance of apologizing in a sincere manner when attempting to recover from a service failure. Employees who sincerely tried to resolve the service failure, whether they were successful or not, achieved higher levels of customer satisfaction than employees who did not attempt to solve the customer's problem or attempted to solve the customer's problem in an unacceptable manner. In 1995, Mohr and Bitner had showed the impact of employee effort on customer satisfaction in the presence of service recovery.

The level of customer satisfaction has been shown to affect behavioural intentions and to have a positive relationship with favourable intentions toward the firm, including a willingness to engage in positive word-of-mouth communications and to repurchase (Swanson, 1998; Smith et al., 1999; Anderson & Srinivasan, 2003; Sparks & Fredline, 2007; Yi et al., 2010; Hsin-Hui et al., 2011).

Bejou and Palmer's (1998) investigation of the relationship between service failure and customer loyalty showed support for unresolved failures greatly decreasing the chance of customer loyalty. Del Rio-Lanza, Vazquez-Casielles & Diaz (2009) studied service failure and recovery and the firm's relationship with the customer, showing that successful recoveries increase relationship quality (i.e., increase customer trust and commitment for the firm). Shapiro and Nieman-Gonder, (2006) examined failed service delivery and showed a positive correlation with customers' unfavourable behavioural intentions, including the intention to exit, engage in negative word-of-mouth communications, or seek redress with lawsuits. Del Rio-Lanza et al. (2009) recently suggested that service recovery strategies would need to vary to reflect cultural difference.

Previous research therefore demonstrates that a service failure not only gives dissatisfaction to the customer, but may also lead to a high level of dissonance, promoting negative word-of-

mouth, and may even lead to losing an existing customer and other potential customers (Sousa & Voss, 2009; Yi et al., 2010). A well-defined, timely and managed recovery process may not only retain the customer but it may help to increase the loyalty of the customer, which can then lead to helping in promoting the firm's image through good word-of-mouth, and positive reviews by a satisfied customer who faced the service breakdown.

## **Independent Theoretical Support - Beyond Services Marketing**

This particular study seeks to examine more closely the links and connections between service recovery efforts and perceptions of justice. 'Justice' itself is fairly obviously an important concept, with its roots in philosophy and law, and in very old and entrenched ideas such as 'natural justice'. These ideas clearly bear cultural influences. Ideas such as justice in a service encounter and customer satisfaction provide theoretical support for the importance of the elements of this study (procedural, interactional and distributive justice) has their basis in areas such as law, psychology, sociology, and economics. These theories have been extended into the services arena to measure justice and fairness in the context of a service encounter. Justice, a customer's perception of 'fairness' of the overall outcome of a service encounter (Stephen et al., 2000; Mattila et al., 2010), is the customer's judgment about the equity in the service encounter. Fairness, the customer's conclusion regarding the equity of treatment in the transaction, is measured against many variables, but not by a strict application of a rigid set of rules or standards. This fairness conclusion, which is based on dictates of the conscience or the principle of natural justice, is a judgment in equity. In arriving at the judgment, customers consider what happened, why it happened, and who was responsible for the event(s) and outcome(s). As customers apply an 'equity theory of justice' and seek to attribute their dilemma to a reason and a responsible party, they are guided by attribution theory as they arrive at a judgment of satisfaction or dissatisfaction.

## **Service Recovery and Justice**

Although service failures are inevitable, what is important is how to understand the frequency with which service failures occur and to control how the necessary service recovery is provided; these skills are vital to establish and maintain sustainable customer relationships. Fornell (1989) characterised this kind of approach as "defensive marketing", and suggested

that it is a widely used method of dealing with customer dissatisfaction in order to protect an existing customer base. It is not possible for service providers to avoid service failures altogether; however, they can develop processes that enable them to respond to these failures. Such a response is known as service recovery, which may be defined as the process by which service providers attempt to overcome a service failure (Mattila et al., 2010).

In assessing attempts to overcome service failure, it is possible to construct a justice framework; in this sense, a customer's assessment of the fairness of the way in which service failures are handled can be defined as recovery justice, and this is usually considered to consist of three different perspectives: distributive justice, procedural justice, and interactional justice (Blodgett et al., 1997; McColl-Kennedy & Sparks, 2003; Ha & Jang, 2009; Lin et al., 2011). When these perspectives are applied to the context of service failure and recovery, it can be stated that distributive justice refers to the customer's perception of the fairness with which resources are distributed as well as of the outcomes of any transaction (Casado-Díaz et al., 2006); more specifically, it refers to what the customer receives as the outcome of any efforts at recovery (Hoffman, Kelley & Chung, 2003; Ha & Jang, 2009).

Procedural justice involves customer perceptions of whatever procedures are employed to bring about a resolution to any service failure (Thibaut & Walker, 1975; Lind & Tyler, 1988; Lind et al., 1995). Specifically, it is concerned with the fairness of the procedures and the criteria employed to arrive at any recovery outcomes (Blodgett et al., 1997; Lin et al., 2011). Within procedural justice customers may include perceptions of procedures and policies, together with consideration of structural elements of service recovery such as refund policies, the amount of time required to obtain a refund, and the flexibility and responsiveness of an organization as a whole in the course of the recovery process (Hoffman, Kelley & Chung, 2003; Kelley & Chung, 2003; McColl-Kennedy & Sparks, 2003; Chebat & Slusarczyk, 2005; Gustafsson, 2009; Mattila et al., 2010).

Interactional justice is concerned with the relationship between service providers, (often frontline staff dealing face-to-face with customers), and individuals who have suffered a service failure. Therefore, it is primarily about customer perceptions of their interaction between service providers (Blodgett, Granbois, & Walters, 1993; McColl-Kennedy & Sparks, 2003). Factors that may affect perceptions of interactional justice include interpersonal sensitivity, whether people are treated with respect and dignity, and what explanations are

provided for service failures when they move to the phase of service recovery (Hoffman, Kelley & Chung, 2003).

The three types of justice outlined above refer to different concerns; however, previous studies have indicated that far from being mutually exclusive, they are in fact correlated and combine together to form an overall perception of justice (Greenberg, 1990; Folkes et al., 2002; Casado-Díaz et al., 2006; Mattila et al., 2010). It has been established that effective service recovery measures can overcome the negative perceptions engendered by service failure and can in fact strengthen customer satisfaction with products or services that have been purchased, resulting in an increase in customer loyalty. Furthermore, prior research indicates that efforts to resolve service failures and effect service recovery are of vital importance in maintaining relationships with existing customers (Hoffman, Kelley & Chung, 2003). According to Blodgett et al. (1997), the perceived justice of service recovery efforts also influence customer behaviour, and Hoffman, Kelley and Chung (2003) found that when the perceived justice of service recovery efforts was high, this resulted in a positive impact on a customer's intention to repurchase. In light of these studies, this study adopts the position that there is a positive relationship between perceptions of the justice of service recovery efforts and customer satisfaction in the context of airline service failure and recovery.

## **Service Success and Recovery**

For the purposes of this study, service successes are defined as satisfying service encounters that may include proactive or reactive service recovery. A proactive service recovery occurs when a successful service encounter results after an initial service failure, from which the service provider initiates a recovery. A reactive service recovery occurs when a customer complains and the service provider then recovers from the failure (Smith, 2001). Although the literature reveals little research about initial service success, success is an integral part of the service encounter satisfaction literature that discusses service recovery. Hocutt et al. (2006) defined service recovery as making right what has gone wrong. Regardless of outcome, service recovery efforts influence a customer's perceptions. A sufficiently positive service recovery may reduce the initial failure to insignificance in the customer's perception. Highly successful recoveries have a surprisingly satisfying effect on a customer's perceptions of service quality. The service recovery paradox (McCullough, 1992; Eccles & Durand, 1998; Mattila et al., 2010) has shown that service recoveries can build loyalty faster than if no

failure had occurred. Mano & Oliver (1993) identified three reasons why successful service recovery may cancel the impact of service failure:

- 1) The customer begins to believe that the business is fair based on communications that occur between the customer and the service provider.
- 2) The recovery is so successful that the service failure memory is cleared.
- 3) The communication between the customer and the service provider creates an understanding in the perception of the customer, so that the customer attributes the failure to extenuating circumstances.

Methods of service recovery have been empirically tested by Yavas, Karatepe & Tekinkkus (2003), who identified and used four types of service recovery methods in their study of restaurants: an apology, a 25% discount, a 50% discount, and a promise and immediate re-performance of the service. Their study supported the relationship between criticality of service and type of recovery method used in restoring satisfaction. Other standing has shown that the level of satisfaction achieved by a service recovery is determined by the customer's assessment of the recovery effort (Bitner, 1990; Bitner et al., 2002; Hess, 2008). That assessment is subjective, emotional, and perceptual (Bagozzi, 1994).

### **Service Recovery and the Airline-Passenger Relationships**

“Although the characteristics of airline services have lent themselves to a relationship marketing approach, many of the customer-related efforts of airlines centre around loyalty programmes that aim to increase short-term sales instead of focusing on long-term quality relationships between the airline and its customers” (Bejou & Palmer, 1998, p. 9).

While the strategy outlined above may have been appropriate for the time it was written, the viability of such a short-term perspective is doubtful in the light of the many challenges that the airline industry as a whole faces, and the specific challenges facing small airlines in developing countries. These challenges include factors such as: intense competition from established international airlines; the decrease in demand for air transport occasioned by high oil prices (which account for approximately 15% of an airline's costs) and global economic slowdown; the spread of regulatory constraints around the global airline industry (Fodness & Murray 2007); falls in profitability within the industry (the world's airlines are estimated to

have cumulatively lost \$43 billion between 2001 and 2005 – Anon, 2006). The issue of oil costs is of central importance to the industry, expenditure within the industry surged to \$97 billion in 2005 at an average price of \$57 per barrel of oil – Anon, 2006) and despite some fluctuation, overall the price of oil has remained high ever since (Anon, 2006; Tiernan, Rhoades & Waguespack, 2008). All of these factors are compelling reasons for airlines to build strong relationships with their customers and use every means to retain their loyalty, as a means to ensure profitability over the long term. In order to do retain loyalty, airlines must be able to deliver their services in a way that achieves satisfaction, and where they fail to do so they must be able to recover from a service failure in a way that ensures a customer's business is not lost to their competitors (Nadiri, Hussain, Ekiz & Erdoğan, 2008, p. 266).

Airlines were amongst the early adopters of relationship marketing strategies, probably due to the complexities of the airline industry (Bejou & Palmer, 1998, p. 7). Torres and Kline (2006, p. 293) state that “building long-term relationships with customers is a source of profitability for the organization, as costs can be reduced by offering customers what they want and retaining them, rather than continuously acquiring new customers”. Cheng, Chen and Chang (2008, p. 490) elaborate this point, stating that airlines “face a very specific problem that could influence their relationships with customers, namely that they suffer from multiple opportunities for mistakes to occur during service delivery and are therefore particularly prone to service failures. Many internal mistakes or external disruptions have the potential to cause customers to experience service failures. It is specifically the response to a service failure (service recovery) that could give airlines a competitive advantage, as an organization's response to a service failure could either restore customer satisfaction or reinforce loyalty, or aggravate the situation by driving the customer to a competitor”.

Airlines therefore need to understand how customers respond to service failures, and how their relationship with the airline is influenced by service recovery efforts (Bejou & Palmer 1998, p. 18; Smith, Bolton & Wagner 1999, p. 356; Schoefer & Diamantopoulos 2008, p. 66). Although service recovery efforts have the potential to achieve satisfaction, and even to increase customer loyalty and retention, Boshoff & Staude (2003, p. 10) contend that “few organizations have the necessary strategies in place to recover from such failures”. As stated previously, there have been few studies conducted into the relationships between service failure, recovery and satisfaction anywhere, and the researcher has certainly not been able to find evidence of any such research in Libya, or any North African country or Middle Eastern

country. The closest research environments culturally in which such research has been conducted are Turkey and Malaysia, in particular the research into service recovery and customer satisfaction conducted in the Turkish airline industry by Cal, Oral, & Vural (2005). This study sought to identify the most frequent areas of complaint by the members of a frequent-flyer program of a particular Turkish airline, in order to aid marketing planners and operational staff to target improvements in their service provision and recovery efforts.

The study's findings suggest that a loyalty programme of the kind offered by the airline surveyed has the potential to deliver enormous benefits in terms of loyalty and repeat purchase, but also introduces a new and much higher set of expectations, and new criteria against which customers are likely to judge the effectiveness of service efforts, and thereby form an opinion of customer satisfaction.

The study found that customer dissatisfaction is raised considerably where promises made to a group who regard themselves as favoured customers were not met, meaning that the effort (and expense) of service recovery attempts also had to be proportionately higher. The conclusion that can be drawn is that satisfaction is not only the result of service provision, but also of perceptions of justice in the treatment of customers in certain groups, who have had their expectations changed by the service provider.

The focus of this study therefore is to determine how customers' perceptions of justice are influenced by an airline's service recovery efforts, and thereby to draw inferences about the effect of the service recovery effort on overall satisfaction.

### **Service Recovery: The Action Frame**

How these corrective actions are taken and extended to the customers can be better understood by considering the pioneering studies of Bell and Zemke (2003, p.33) who proposed five components in a series of corrective action: "apology, urgent reinstatement, empathy, symbolic atonement and follow-up". Zemke and Bell argue that complaining gives the customer an opportunity to "(i) receive an apology for the inconvenience, (ii) be offered a fair solution for the problem, (iii) be treated in a manner where the service company appreciates the customer's problem (including fixing it), and (iv) be offered some value-added atonement for the inconvenience" (p. 34).

Summing up all the components of the service recovery process outlined above, the major steps of an effective recovery process can be set out as follows:

- 1) **Response:** This component explains the acceptance/ acknowledgement of the service failure for which the response generated could be in the form of an apology, an empathic view and the involvement of management when required.
- 2) **Information:** Collecting and disseminating information about the service failure which includes an explanation for the service failure, validating the proposed solutions for the customer; informing the customer about the justified feasible solution and assurance of no repetitions of the service failure in future.
- 3) **Action:** This frames the corrective action to be taken by the firm in response to the service failure, such as changing procedures or follow-up action to check the after-effects.
- 4) **Compensation:** This component addresses the compensation offered to the customer by an organization as the result of a service failure.

## **The Process of Service Recovery**

Once the problem is identified, the efforts to recover the service and to resolve the problem are initiated. One of the tactics to recover the service is to involve the customer, who can give inputs to the reason for failures and can take the recovery process to its final stages by suggesting outcomes or solutions. This substantially decreases the dissatisfaction due to untoward results as the practice give the customer a feel of control over the process which influences the perception of the justice of the recovery (Kanfer & Early, 1990; Härtel, Ashkanasy & Zerbe, 2007; Hess, 2008; Yi et al., 2010). One service recovery action is to offer compensation such as a refund or some discounts for future purchases. Compensation in lieu of service breakdown gives a feeling of more control to the customer and suggests to the customer that the cause is temporary and will be fixed in time (Bitner, 2002; Blodget, Wakefeild & Barnes, 2003; Mattila et al., 2010). Compensation along, with high levels of respect and courtesy, creates a positive difference.

## **Service Recovery and Customer Complaints**

This is the element identified as crucial in the analysis of service recovery. Since service recovery deals also with the problems of customers or their complaints, it is important that service organizations should understand the nature of these problems or complaints and have a way to respond and handle them effectively and efficiently. Only 4 to 10 per cent of dissatisfied customers ever give business firms the chance to compensate for failures while the rest do not bother to complain (Mangini et al., 2007). Three main reasons for not complaining are due to i) customers' fear of difficult questions when voicing their complaints, ii) no one, or no easy channel is available by which they can communicate the grievances and iii) the complaints will not do any good, or customers perceive no one cares to listen and act on the problems. Given that a complaint is an emotionally-laden affair both customers and employees tend to regard it as a focal point of refusal and avoidance (Sparks & Fredline, 2007). On the other hand, a planned recovery is suggested as the best practice for handling customer complaints (Burns & Grove, 2005). Claycomb and Martin (2005) developed a conceptual approach to understanding complaining behaviours and methods of dealing with them. When customers are dissatisfied, there are three major outcomes to the complaints; i) a private response through personal boycott of product service, brand or manufacturer, ii) public response through seeking redress or complaining publicly using any communication of a public nature and iii) the customers not complaining.

This study is therefore faced with a sampling choice as a result of these observations. It can either seek to investigate customers of the two airlines that are the focus of the study, or only those who complain and seek redress. Since a large majority of dissatisfied customers never communicate with companies, it is necessary to determine factors that influence customers' decisions to complain, the opportunities for them to become dissatisfied and the avenues or means available for them to complain (Kim et al., 2009; Boshoff, 2005; Cohen, 2000; Andresen, 1984). Worland et al. (1975) analyse categories of dissatisfied customers in terms of who gets upset and who takes action as a result of their inconveniences. The aim of their work was to identify personal characteristics of customers who were unhappy and who had complained about treatment of their problems or complaints. Similarly, Jacoby (2002) examines factors that stimulate complaints and redress seeking, and found that many complaints were not related to functional characteristics of the product or service. His study concluded that customer complaints are a function of many variables, including product or

service dissatisfaction, reputation of manufacturer, and customers' or retailers' attitudes. This study therefore seeks to survey passengers of the Libyan airlines regardless of whether they have registered a customer complaint or suffered a service failure.

On the other hand, Burns and Grove (2005) explore the nature and structure of the complaining behaviour concept from the aspects of its definitional and taxonomical issues. Generally, the study outlines the major purposes of complaining that include: redress seeking, complaining, personal boycott, and dissatisfaction relating to operational procedures. However, given the nature of the airline industry, and of airlines operating on busy international routes and within developing countries, it is highly unlikely that any regular customers of the two airlines surveyed have never suffered service failure. Therefore, attempts to categorise the customers further seem worthless, and a large cross-section of all customers is likely to provide a very high proportion that have experience of both service failure and attempts to recover from it.

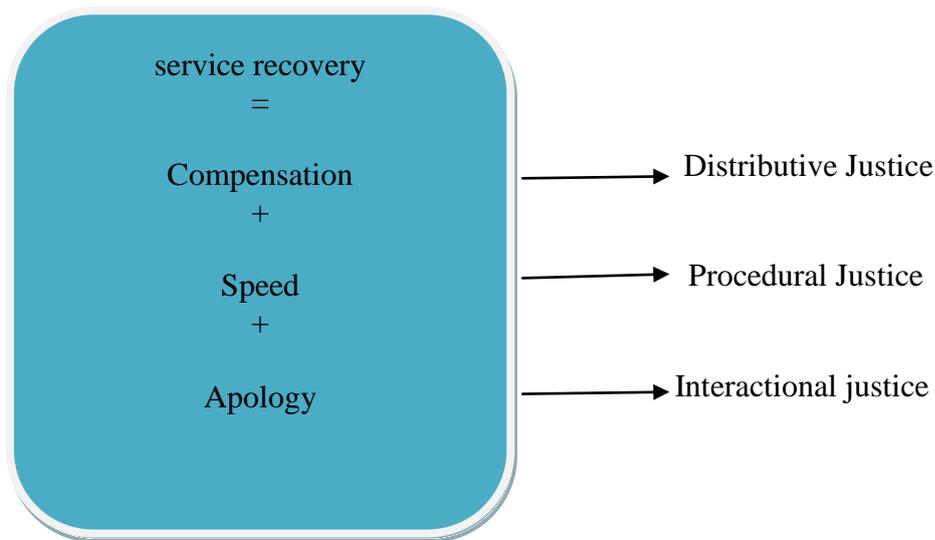
## **Customer Responses to Service Failure**

For a service recovery to occur, the identification of service failure by the service provider is critical. In most of cases the service failure goes unnoticed. Sometimes it is too minor to be noticed, or the service provider does not give sufficient importance to the service failure or recognise its importance. Hirschman (1970) classifies the customer's reactions to a service failure as exit, voice and loyalty. He describes 'exit' as an active response to the dissatisfaction felt, by terminating/breaking the relationship with the firm. In this case, the customer does not try to complain about the failure of the service but decides to exit. Exit is terminal and represents the highest cost paid by the service provider for failure. The exit behaviour of the customer exhibits that the experience of service failure has motivated the customer to finally exit from the service. The exit may happen when either a customer is introvert in nature or holds the belief that their complaint of the failure will not be addressed fairly. This may be because of the lesser involvement of the staff providing the service or the complex complaining reporting process, or the perception of a long claim required to reach the competent authority (Hirschman, 1970).

Warden et al. (2003) propose that the customer is more likely to report the failure/problem if it is clear to the customer that the firm would definitely try to resolve or solve the problem.

Service guarantees and warranty are the two practices to cultivate such a faith in the customer. 'Voice' as a response involves the customer communicating dissatisfaction to the company. 'Loyalty', as a response by a customer is explained, by Hirschman (1970) as inactivity. Later this classification and the term 'loyalty' was refined and adapted by many scholars. In a microeconomic context, 'loyalty' as untrendy understood may convey the meaning of inactivity, but in the field of customer behaviour research and marketing, this definition of loyalty would be prone to misunderstandings. Now, using Hirschman's (1970) definition, a 'loyal' response of a customer to a service would be seen as misplaced, being neither 'loyal' nor completely inactive. But it is contemporary to the concept, in the sense that a customer opting to say nothing about a failed product in anticipation of things getting better may (or may not) come back to the same firm. Hence, to clarify the response and understand the open ended options available to the customer to express dissatisfaction, the term 'silence' is wed as a more suitable label than 'loyalty' in cases of customer not responding to service failures in this study.

The customer still has the option of coming back to the firm or otherwise. Organizations have chosen to espouse the belief that the customer is always right and thus (at all costs), customer satisfaction and loyalty should be obtained, when it comes to service failure and service recovery (Wang & Chi, 2004). However, in services it is quite a challenging task to attain customer satisfaction for all individuals, as the behavioural responses are underpinned by a matrix of a varied set of psychological and physical variables. In spite of this, some general and acceptable behavioural patterns can be set as benchmarks to attain customer satisfaction. Probably the best 'loyalty scheme' an organization can offer to its customers is to provide satisfaction, because it is the result which matters most to the customer. To conclude this section of the literature review focused on service recovery, it is useful to present a figure illustrating the key elements of service recovery which combined together represent a complete service recovery effort. These elements are compensation, speed, and apology, and each has its effect on customers who have experienced a service failure, as shown below.



**Figure 2-1: The elements of service recovery**

These elements of the service recovery effort are considered to have an effect on the perceptions of customers with regard to justice: specifically, their perceptions of the procedures by which their service failure is handled; the equity of the resources devoted to their problem in comparison with those of others, and the how they are treated by service recovery staff.

## **Justice Theory**

Services are by their nature intangible, and because of this the procedure and the people involved in delivering the service become important; it is therefore necessary to concentrate on how the service is delivered (process) and the relation with the customer (Ha & Jang, 2009; Yi et al., 2010). However, it is a prerequisite of effective service recovery that an organization has some understanding of the psychological expectations held by customers with regard to the service being offered, its failure to perform and the justice/fairness received in terms of any attempts at service recovery. Ever since its adoption in the marketing literature, equity theory (or the theory of perceived justice) is repeatedly referred to as a means of understanding typical customer expectation and as a path towards understanding the requirements for customer satisfaction.

The concept of justice deals with fairness, or judgment that individuals make in reference to what quality of service they receive (Oliver, 1992). Studies often relate perceived justice in relation to service failure and recovery to satisfaction, as a customer feels satisfied only when their perception is that the treatment given is justifiable. Failure to do so results in the customer feeling dissatisfied, since the treatment offered is not perceived as just by the aggrieved customer (Kennedy-McColl & Sparks, 2003, p. 141). These same authors, writing about justice theory in the literature on service recovery, state that justice theory is based on the thought that “customers' satisfaction and their future loyalty levels would depend on whether the customer feels that they were treated fairly and that justice was done” (p.148). Chebat and Slusarczyk (2005) introduce equity into considerations of justice, stating that “perceived justice is linked to service failure and recovery because its dimensions incorporate aspects of fairness and equity theory, implying that exchange in interactions between service providers and customers should be equitable” (p. 665). The compensation provided as a part of the service recovery process is said to retrieve a complex collection of responses from the customer’s side. A low level of compensation induces a negative impact on the customer and too high a level of compensation also induces a sense of discomfort in the customer’s conscience and even a sense of guilt if the compensation provided is not to scale.

Although some researchers have tried to establish relationships between the three dimensions of justice, and satisfaction, and behavioural intentions (Karatepe, 2006), this study will consider justice only as an important element of the achievement of customer satisfaction with efforts at service recovery. Justice and its individual dimensions constitute an intermediate stage in the process of providing a service recovery effort, and strongly influence customer perceptions of the eventual outcome. Before considering the individual dimensions of justice separately, it may be useful to briefly describe them as a group.

Broadly speaking, justice theory states that the customer feels satisfied if the customer’s input to the exchange process of service delivery balances the perceived output. Similarly, if in an exchange, the customer feels equitably treated, then this is referred to as distributive justice (Goodwin & Ross, 1992; Oliver 1997). Also, customers judge the perceived fairness of the outcome they receive in addition to the perceived fairness of the delivery process: this process is generally referred to as procedural justice (Beggs & Keown-McMullan 2000; Palmer, Chebat & Slusarczyk 2005; Mattila et al., 2010). The inter-personal aspect of procedural justice is referred to as interaction justice in some studies, which stresses the

manner in which the service process is carried out and information is communicated to the customer by the service provider (e.g. see Seiders & Berry 1998; Tax et al. 1998; Smith, 2001).

## **Distributive Justice**

Distributive justice is the perceived fairness of the tangible outcome of the service encounter (Hocutt et al., 2006). ‘Equity’ (Oliver & DeSarbo, 1988; Oliver & Swan, 1989; Chebat & Slusarczyk, 2005; Prasongsukarn, 2005; Kim et al., 2009) and concepts such as ‘equality’ (Mattila et al., 2010), and ‘need’ (Casado-Díaz et al., 2006) have been used in defining it. Problems with measuring distributive justice arise because equity, equality, and need are not easy for the customer to distinguish and it is difficult for service personnel and customers to assess input and output value (Casado-Díaz et al., 2006). The distributive justice equity model has been tested extensively in sociological and organizational behaviour research (Mattila et al., 2010). Distributive justice has been used many times to explain justice or fairness (Lin et al., 2011). Researchers favour the use of distributive justice models in which inputs and outputs can be easily measured.

Empirical equity research has supported the role of distributive justice in service recovery (Yi et al., 2010; Hsin-Hui, 2011). Distributive justice is achieved in a service recovery when the customer receives at least what they would have received before the service failure occurred. This has been called restoration to at least value level (Casado-Díaz et al., 2006) and atonement (Bell & Zemke, 2003; Yi et al., 2010). Reimbursement, replacement, repair, correction, credit, and no attempt at resolution are possible responses to distributive injustice (Lin et al., 2011) and these various kinds of atonement for service failure are usually combined under the general term compensation. The implications of all this for the current study are that the research instrument must be designed to include questions which measure the extent of customer perceptions of the distributive justice of service recovery efforts particular to the aviation industry.

## **Procedural Justice**

Procedural justice is connected to customer perceptions of the fairness of a service recovery effort. The service recovery literature has defined procedural justice as the organization's step-by-step actions in solving problems (Seveter, 2002; Ha & Jang, 2009; Yi et al., 2010). Tax and Brown (1998) called procedural justice the adequacy of the criteria or procedure used in decision-making. In assessing procedures, the customer makes a subjective comparison of the processes used to handle a transaction, service recovery, or injustice. In order of importance to the customer, the attributes of procedural justice are "1) assuming responsibility, 2) timing and speed, 3) convenience, 4) follow-up, 5) process control, 6) flexibility, and 7) knowledge of process" (Tax et al., 1998, p.79).

Services marketing studies have used 'procedural justice' to measure 'fairness'. Del Rio-Lanza et al. (2009) and Vazquez & Jasso (2002) used it to analyse pay equity. Mattila et al. (2010) applied it to human resource practices. Bies & Moag (2002, 2007) measured procedural justice using the customer's opportunity to participate in the process by offering opinions. Procedural justice is difficult to manipulate in experimental situations; however, it can be used with retrospective self-reports of service failures and recoveries (Chebat & Slusarczyk, 2005; Yi et al., 2010).

## **Interactional Justice**

Interactional justice arises from the interpersonal part of a transaction (Jasso, 2002). It is an intangible part of the service encounter experience composed of fairness judgments related to the attributes of honesty (Goodwin & Ross, 1998), politeness (Goodwin & Ross, 2001; Clemmer, 2003), effort (Kaiser, 2000; Chebat & Slusarczyk, 2005; Prasongsukarn, 2005), empathy (Parasuraman et al., 1988), and explanation Yim et al. (2003). It has been defined by Tax et al. (1998) as the perceived fairness in interactions between people, when a customer is present in the service delivery system or while the service is being carried out. Interactional justice may also be defined as being based on the quality of the interaction between two parties involved in a process in which one is providing a service and the other is purchasing it (Ha & Jang, 2009). It has been shown to affect the quality of service delivered (Kennedy & Sparks, 2003; Del Rio-Lanza et al., 2009).

Interactional justice has primarily been explored in customer satisfaction studies in situations where an injustice or service failure has occurred. Jasso, (2002) discovered that 43% of poor outcomes in service transactions are due to customers forming a negative perception of front-line employees' responses to a service failure. Unacceptable answers about service failures from other than front-line employees (e.g., supervisors, managers, mechanics and other usually behind-the-scene technicians who are rude, inattentive, uncaring, or even arrogant in their participation in the transaction) accounted for 51% of poor outcomes (McColl & Sparks, 2003). Marketing studies that have employed the notion of interactional justice in customer satisfaction research (Wakefield, & Barnes, 1995; Blodgett & Tax, 1997; Tax et al., 1998; Blodgett, Oliver & Swan, 1999; Goodwin & Ross, 2001) support interactional justice as a significant predictor of customer satisfaction with service recovery efforts.

Mattila et al. (2010) operationalized interactional justice as the presence or absence of an apology following a service failure and during a service recovery attempt. Many times, this interpersonal treatment during the service recovery effort appeared to remain in a customer's salient memory longer than other details. In short, studies have found that a way a customer is treated after a service failure often has as much or even greater impact on their perceptions of justice than the compensation they are offered.

Social psychology literature and organizational behaviour literature have suggested that previous personal exchanges or prior experience can have a bearing on the resolution of conflict (Goodwin & Ross, 2001; Schlenker, 2003; Prasongsukarn, 2005). These studies acknowledge the impact of personal interactions on problem solving. Certainly, the literature of interactional justice points to a critical relationship between perceptions of justice and the quality of the personal interaction developed through the service recovery effort, whether this is face-to-face, over the telephone or even by email. Customers who are treated with respect, courtesy and empathy have been shown to be much more likely to be satisfied with service recovery efforts.

### **The Relationship between the Dimensions of Justice**

In terms of the combined constructs of justice, the mutual influence among justice constructs has been explored and supported (Tax et al., 1998). It has also been suggested that customers evaluate interactional, distributive, and procedural justice independently (Jasso, 2002). Yim

et al. (2003), citing the high correlation of procedural and interactional justice, examined them as a unit that influences and is influenced by distributive justice. In 2004, Wirtz et al. confirmed that distributive and interactional justice in a retail firm's service recovery approach are related to the customer's word-of-mouth behaviour and repurchase intentions.

Their data, based on retrospective service reports, supported the idea that interactional justice had a more important impact than distributive justice on the customer's future behaviour with the firm, suggesting that interactional justice may be more important than researchers had realized. Other research (Chebat & Slusarczyk, 2005; Yi et al., 2010) used an experimental scenario that had indicated that distributive justice was more important than interactional justice to future behaviours. The researchers found that customers wanted to get what they wanted (distributive justice), but they also wished to be treated with respect (interactional justice). The different results may stem from the different methodologies; however, it is possible that customers' justice requirements vary with the type of service being rendered. Bies & Moag, (2007) examined the interaction between distributive and interactional justice in determining customer satisfaction after a lodged complaint.

McCabe (1990) and Tax et al. (1998) explored the concept that employee behaviour (interactional justice) influences customer perceptions of procedural justice. For Tax et al. (1998), the hypothesized interaction between procedural and interactional justice was not statistically significant in complaint handling situations. According to Smith (2001), as customers attribute employees' actions and treatment to the organization, their interpersonal treatment will influence perceptions and, thus, assessments of procedural justice. If the workers at a firm do not provide politeness, empathy, effort, honesty, and the right attitude, the customer satisfaction perception associated with procedural justice is reduced (Vazquez & Jasso, 2002).

In a service industry such as civil aviation, issues of procedural justice are largely concerned with established procedures for such problems as flight delays and lost baggage, Airlines usually have well-established systems in place to deal with these problems, being relatively common, but customers still need to feel that their particular instance of service failure is being dealt with fairly, and that staff are conversant with such procedures and competent at implementing them. McCole (2004) suggested that perceptions of procedural injustice cause perceptions of distributive injustice to worsen. This is especially the case when the customer

thinks the outcome could have been better through a fairer process. When unfair procedures lead to poor outcomes, a customer's satisfaction is likely to decrease (Yi et al., 2010; Tax et al., 1998).

Most now believe the three constructs of justice are correlated and complementary (Hess, 2008). Each customer arrives at an overall judgment of the service based on perceptions regarding the people (interactional justice), the product (distributive justice), and the process (procedural justice), which interplay to determine a service assessment or a customer satisfaction judgment based on overall justice (Choi & Mattila, 2008). This study's research instrument therefore needs to investigate procedural justice in the wider context of 'service recovery justice' and overall customer satisfaction.

### **Justice and customer relationships**

A service failure has the potential to unbalance the relationship between a business and its customer. The distress experienced by customers after a service failure is proportionate to the perceived injustice of an exchange, and this determines the level of service recovery required. The level of distress determines the desire by the customer to seek restitution from the service provider. In other words, customers try to get even with the firm in response to a perceived wrongdoing (Bechwati & Morrin, 2003). Therefore, the levels of distributive justice experienced by a customer before a recovery effort are proportionate to the customer's recovery expectations of the company. In effect, a company which can exceed the expectations of a customer of the service recovery attempt has the opportunity to turn a negative view of the company into a positive one, with all its implications for repurchase, word of mouth and positive feedback. In the aviation industry, which deals with huge numbers of customers in very complex service arrangements, it is extremely useful to generate this kind of disconfirmation of negative expectations.

In addition to affecting perceptions, peoples' activities are influenced by procedural justice as well. For instance, within an organization, procedures that are regarded as fair engender feelings of loyalty to the organization, which can in turn foster commitment to an individual's role in the organization, and increase the likelihood of that individual remaining with the organization (Tyler & Belliveau 1995; Martin & Bennett 1996; Olson-Buchanan 1996; David, 2003). This in turn results in job satisfaction and improved performance (Alexander &

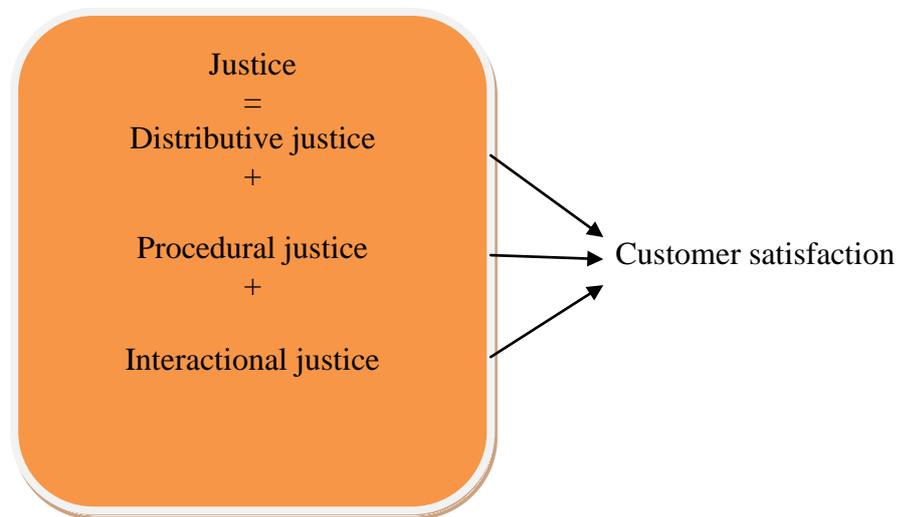
Ruderman 1987; Lind & Tyler 1988), and increases the individual's trust in the organization and their willingness to work beyond the limits contractually specified (Kim & Cha, 2002). Overall, positive perceptions of procedural justice reduce harmful emotions such as anger and hostility (Barclay et al., 2005). On the other hand, a breach of procedural justice can result in and individual exhibiting negative behaviours toward the organization, and to the collapse of normal social inhibitions and a wish to punish the organization or its representatives (Kim et al., 2009).

Marketing researchers use procedural justice as one of the factors that explain how service recovery affects customer satisfaction. Procedural justice has been shown to be positively related to customer satisfaction following service recovery efforts (Smith, 2001; Kim & Cha, 2002), in terms of customer intentions to repurchase from the same service provider, and by generating positive word of mouth (Del Rio-Lanza et al., 2009). Conversely, negative perceptions of procedural justice can have the impact of making individuals hostile or resistant to an organizations intended outcomes: For example, Yim et al. (2003) state that procedures that are perceived to be fair by employees cause less resistance to the outcome, whereas when employees perceive a procedure to be unfair, resistance and negative attitudes are much more likely outcomes. In a service failure context, a negative outcome is likely to follow, and if customer-perceived procedural justice with regard to service recovery effort is also low, it is very unlikely that satisfaction will be achieved.

It can therefore be stated that if customers feel a high level of procedural justice, they are more likely to accept, and be satisfied with, the outcome of a service recovery effort. Given the potential benefits of reversing the negative feelings engendered in customers by a service failure by a successful service recovery effort, it is important that service providers understand what it is that customers want from service recovery, and how they should behave in the immediate aftermath of a service failure.

In summary, it can be said that the dimensions of justice consists of three key elements, as illustrated in figure (2.2). These elements are distributive justice, procedural justice and interactional justice, and in the literature they are usually associated with the elements of service recovery in pairs so that compensation is regarded as having an influence on customer perceptions of distributive justice, speed on procedural justice and apology on interactional

justice. This study will seek to investigate the extent to which these traditional elements of the service recovery dimension have an influence on perceptions of justice in the Libyan airlines industry. The elements of justice dimension, and their influence on overall perceptions of justice, are illustrated below:



**Figure 2-2: The elements of justice**

## **Customer Satisfaction and Service Recovery**

The definition of service recovery given by Zemke and Bell (2003, p. 43) is a “...thought-out, planned process for returning aggrieved customers to a state of satisfaction with the firm after a service or product has failed to live up to expectations”. Service recovery can therefore be considered as the actions of a service firm in response to a service failure. The objective of service recovery is to retain the confidence (and revenues) of the customer by maintaining a relationship (Schweikhart, Strasser & Kennedy, 2005; Yi et al., 2010). Central to this objective is the belief that customer satisfaction ensures benefits such as positive word-of-mouth communication, loyalty, and repeat sales (Bearden & Teel, 2001). If service recovery efforts prove effective, they can also lead to a re-evaluation of perceptions of the quality of products and services already purchased, and can overturn negative perceptions of an organization’s competence, restoring the customer to a favourable appraisal of a product or service’s quality and value (Kelley & Davis, 1993; Zemke & Bell, 2003). Obviously, the opposite is true, and service recovery failure that follows the initial failure compounds the loss of customer confidence and ensures that customer satisfaction declines. The results are typically negative word-of-mouth, the loss of repurchase intention, possible negative

publicity, and the direct net cost of performing the service and the recovery effort (Berry & Parasuraman, 2003). According to Zemke & Bell, (2003) frontline staff are central to customer assessment of a service offering and employee behaviour that deviates from customer expectations (rather than problems caused by systems failures or misguided policies) is one of the hardest types of failure to recover from (Hoffman, Kelley & Chung, 2003, p. 322).

As a result of service failure customers often switch to an alternative service provider. Research suggests that this is generally not due to the core service failure, but because the response of employees proves unacceptable (Keaveney, 1995, p. 77). In assessing how successful a service recovery effort is, it is therefore necessary to take into account the response of the firm's front line employees.

### **Definition of Satisfaction**

*“Satisfaction is a psychological term denoting a feeling of gratification. Customer satisfaction is the measure of how the service provided by the provider meets or exceeds customer expectations from a service encounter.”* (Velicer & Fava, 2004, p. 492.).

Parasuraman et al. (2003, p. 15) describe customer satisfaction with a service as “the gap between the customer's expectation of performance and their perceived experience of performance.” Another definition addresses the subject matter from a performance perspective *“Customer satisfaction equals perception of performance divided by expectation of performance”*, (Parasuraman et al., 2003, p. 12).

Research has also been undertaken into the relationship between satisfaction with complaint handling and the customer's previous experience of service recovery efforts in their effect on customer trust in an organization and its processes. Hess, Shankar, and Klein (2003) have investigated how customers' relationships with a service organization affect their reactions to service failure and recovery. The conceptual model proposes that customer-organizational relationships help to shape customers' attributions and expectations when service failures occur. Mohamed (2000) puts forward a new way of thinking to win long lasting relationships with the customers. He states that getting more complaints is a way to getting more customers who tend to stick to the service for a longer term (much against traditional thinking). The author says that within a customer focused culture, complaints are not treated as being

justified or unjustified, right or wrong. Instead, each complaint represents a real opportunity to win back trust that might have been lost.

If customers are satisfied with a service, they are most likely to continue their relationship with the company, and also they are less financially burdening to the firm's marketing and advertising department to approach than new customers as they are already acquainted with the service. They are inclined to purchase more, and they help in acquiring new customers through encouraging word-of-mouth (Reichheld & Sesser, 2001; Holloway & Beatty, 2003; Wang, 2008; Wang et al., 2011). Customer satisfaction is directly proportional to profitability; also, while assessing the past performance of firms and also when predicting their future financial success, this has to be taken into account (Anderson, Fornell & Mazvancheryl, 1994; Schoen, 2002). Nikbin, Armesh, Heydari and Jalalkamali (2011) made a study into the effects of perceived justice on repurchase intentions conducted in an Iranian airport; they found that all three dimensions of justice correlated positively with repurchase intentions, but that distributive justice had the greatest effect; this findings accords with earlier researchers such as Blodgett et al. (1997) and Ha and Jang (2009). The study reinforces the theme consistently found in the literature (e.g., Gronroos, 2003; Ok et al., 2005) that although poor service delivery may initially appear to be a serious setback, successfully resolving it proves a boon to any company, going beyond what is required in the sense of duty and establishing a lifelong relationship with the customer. When complaints are handled successfully, or service recovery is achieved, customer can transform from annoyance and irritation into a feeling of loyalty, and will continue to believe of the efficiency of the firm and would vouch for the product or the service he/she has purchased and would continue to purchase. The spin-off from this particular customer is that he/she involuntarily creates opportunities through various forums which help in building and broadening the customer base. However, a failure to achieve customer satisfaction, initially or after protracted events at service recovery, could lead to lower customer confidence, negative word-of-mouth, loss of customers or customer decay and entail the direct cost of performing the service again (Wang, 2008) which considering the combined effect because of the loss of one customer and his/her loyalty and additionally the number of customers lost due to the negative word of mouth, can damage the firm's reputation and trust in the market catastrophically.

Organizations can retain their customers, protect against negative word-of-mouth diffused through unhappy customers, and check further disadvantages by managing customer dissatisfaction (Tax et al. 1998). Including something extra along with the service recovery process in such a case helps the firm's cause enormously, as the customer feels that the firm intends to hold on to the customer and is really repentant about the service failure. This extra step taken by the firm, again, has a knock-on effect on to other customers, as well as prospective business partnerships.

In addition to the previous work done, Gustafsson, in 2009, proposed ten domains of customer satisfaction, which need to be improved continually to change the policy or the approach of a service provider to achieve higher level of customer satisfaction. The ten domains defined by Gustafsson (2009) are: Environment, Efficiency, Quality, Value, Timeliness, Ease of Access, Inter-departmental Teamwork, Front Line Service Behaviours, Commitment to the Customer, and Innovation. Hui (2007) considers that customer satisfaction is different from the quality of service offered. Satisfaction is believed to be the outcome of comparing predicted service and perceived service, where service quality indicates a comparison between desired and perceived service. The assessment of individual service transactions has been named as satisfaction judgments. On the other hand, the perceived quality of service would be akin to an individual's general outlook on the service firm (Bitner et al., 1990; Weun, 2002; Hocutt, 2006). In addition, direct comparable determining factors have been suggested for both customer satisfaction (Wang, 2008) and service quality (Udo et al., 2010). This defines and implies a secure relationship between service encounter satisfaction and the perceived quality of a service. As a result, too little consideration may have been paid to the degree and nature of concept of satisfaction in service quality research, as it also fits the depiction of an attitude (Claycomb and Martin, 2005). For instance, marketers generally do not identify satisfaction as a cognitive assessment of attributes, as found in other literatures, but they rather identify it as an emotional reaction to a product or service use (Oliver, 1993).

Kloppenborg and Gourdin (1992) claim that in the airline industry, recovery related issues have a prominent place in measuring service quality/customer satisfaction. Evaluations and responses from a sample of airline passengers list five factors related to service quality out of the ten most preferred /important dimensions. The five factors related to service recovery in airline industry as listed by studied sample are:

1-The airline is responsible for lost baggage (Rated as the most important factor by respondents)

2-Availability of timely information on delayed flights (Rated as second important factor by respondents).

3-The responsibility of the airline for delayed passengers (Rated as the fourth important factor by respondents).

4-On-board comforts during delays (Rated as eighth important factor by respondents)

5-Airlines should take care of delayed passengers (Rated as tenth important factor by respondents).

Ranaweera et al. (2003) understands service recovery as a quality management process wherein the ultimate objective of service recovery is to ensure good business relationship with the customer. This notion is supported by the explanation that customer satisfaction leads to customer loyalty, which implies repeat sales and positive word-of-mouth (Maxham, 2001). Therefore, the service organization's most effective evaluation of its commitment to service quality and customer satisfaction rests on its responses after disconfirmation (Shapiro & Nieman, 2006). It is rightly said that satisfaction is mute and it can only be experienced in its absence (Jaensson, 2006).

### **Customer Satisfaction/Dissatisfaction and the Disconfirmation Paradigm**

Customer dissatisfaction is a psychological factor arising from the emotional evaluation of disconfirmed expectations in the service encounter and the emotion before the service encounters (Oliver, 1993). The resultant dissatisfaction/satisfaction shapes into an overall attitude comprising negative or positive feelings towards a firm or service (Ranaweera & Prabhu, 2003). This attitude with regard to particular service/firms guides the future behaviour about repeat purchases, and can lead to loyalty to a brand and generate positive word-of-mouth.

Expectations either positive or negative are formed on the basis of attitudes, and according to the paradigm of disconfirmation these expectations influence a customer's service encounter satisfaction and therefore their perceptions of the quality of service (Ranaweera & Prabhu, 2003).

The disconfirmation paradigm has three core elements:

## **Perceived Performance**

Customer satisfaction and dissatisfaction after a service encounter is an evaluative process resulting from the comparisons made by a customer on the basis of the actual performance with the perceived expectation of the performance of the service. Customer satisfaction and /dissatisfaction provide an instant assessment of how well a service was perceived. A confirmation occurs when the service performance equals or outperforms the expectations arousing a neutral feeling or simple confirmation (Zeithaml et al., 2003) and is denoted as satisfaction. Operating as a measure of the success of the transaction, satisfaction shows a significant carryover effect, changing gradually over time (Kim et al., 2009). Conversely, when the performance does not match the expectations, it results in negative disconfirmation denoted as dissatisfaction. Performance better than the benchmark results are termed positive disconfirmation. Performance parameters inferior to the benchmark create negative disconfirmation (Magnini, 2007); however, the disconfirmation paradigm itself is not without its limitations.

## **Limitations of the Disconfirmation Paradigm**

The disconfirmation paradigm concerns the elements and processes resulting in satisfaction appraisal by the customer, during the period they act as partial employees in the production of services. Moreover, the behaviour of the customer while consuming the services is only implied, it is not factored into the model in any tangible way. In addition, the disconfirmation paradigm does not take into account the nature, preceding conditions and results of unsatisfactory experiences (McCullough et al., 2000). Nevertheless, the disconfirmation model has its relevant importance and scope in studies of customer behaviour. At this stage it is useful to consider two case-studies from the literature, which provide some insight into the kind of service failure problems common in the aviation industry and illustrate the movement from service failure to customer satisfaction that can be achieved when customers perceive their problem to have been dealt with competently and justly.

## **Customer Satisfaction and Customer Loyalty**

Service recovery is of paramount importance from the perspective of customer loyalty, as the business model is sustained with a synergistic integration of customer expectations and service/product delivery by the vendor. This factor is especially true for firms in services industries, a prime example of which would be the airline industry, where customers expect excellent service from the crew in addition on to a top priority being placed on safety and reliability. The product here in the airline industry is intangible and the moment of truth is when the customer experiences the service, and during meetings at the front office – e.g. when checking in. Customer loyalty at this juncture for an airline company is very important, as in the recent past it has been under tremendous competition with many different players operating and vying for the customer's attention and in turn loyalty (Yi, 1990; Lin & Wang, 2006).

A study carried out in British Airways (Lin & Wang, 2006) shows the following factors as the determinants of service quality:

- 1-Care and concern
- 2-Spontaneity
- 3-Problem solving
- 4-Recovery

As realised before in the previous sections, providing satisfactory service recovery is another method of gaining the trust of the customer all over again. The components that constitute a well carried out service recovery are: Collection (of information about the service failure and dissatisfied customers), Delivery (of the service recovery), and Possibilities (of delivering the service recovery) (Jaensson, 2006; Lin & Wang, 2006). This is testimony to the fact that service recovery is a structured process, and in most previous studies the findings have illustrated that customers who have experienced service failure but received adequate compensation have more loyalty (Casado-Díaz et al., 2006; Lin et al., 2007; Mattila et al., 2010; Yi et al., 2010).

Satisfaction is understood to be the fulfilled response of the customer and also as a judgment of the features, or the product itself, providing the customer has a sense of fulfilment, which in turn consists of levels of fulfilment above or below expectations (Oliver, 1997, p. 13). Firstly, satisfaction is generated through a mismatch between customer expectations and the

delivery of service. Secondly, it is considered to occur when the needs of the customers are not understood; thirdly, when appropriate service standards are not delivered, and last but not least, when designs and standards are not chosen appropriately (Zeithaml et al., 2003). However, the way a company maintains its outcomes to a customer who experiences a service failure will probably be the main determining factor of that customer's perceptions of the company and satisfaction levels (Bitner, Booms & Tetreault, 2002; John, 2007). As it is recognised that many services are largely intangible, the perceived quality of the interaction between customers and provider is what influences judgments of customers about satisfaction with a service. Lee, Graefe and Burns (2004) suggest that, with the increase of customer expectations there is a need to understand the front-line service provider role in a better way, particularly in terms of solving the problems of the customers, collecting information about customer needs and further strengthening the on-going relationships with customers. This means that the service provider is not only expected to serve the customers efficiently, but he/she is also supposed to solve customer service related problems successfully (Kim et al., 2009).

With most countries liberalising airline operations across their regional airports, the airline industry has seen unprecedented competition in the recent past. Technological advances offer an opportunity to increase service in a variety of ways to improve the competitive stance held by these companies. Globalisation and value driven business imperatives therefore mean that mistakes will not be tolerated by customers with such a wide range of choice. The implications of a failure to address service recovery efforts with effective action are widely accepted in the literature; however, recent research has focused on the relationship between elements of service recovery efforts and the dimensions of justice, or on the dimensions of justice and the effect they have on customer satisfaction in the form of customer reactions such as repurchase, positive intentions word-of-mouth and overall satisfaction. Some of these studies, and their implications for the current study, are discussed below.

### **Studies of the Interactions of Service Failure, Service Recovery and Customer Satisfaction.**

Studies which have investigated the relationship between individual elements of service recovery efforts and their effect on perceptions of justice have been very rare. Moreover, those studies which do exist in the literature mostly investigate service encounters in the

context of developed countries, and in areas such as retailing and hospitality. The current study is highly unusual in investigating these relationships in the context of the airline industry operating in a developing country. However, one study which does have some relevance to this research is that of Mattila et al. (2010) which investigated the role of self-service technology in restoring customer perceptions of justice in situations of service failure. Although this study was conducted in a developed economy context (the USA), it relates to this research by including the three stages of service recovery, justice and satisfaction and seeking to identify the relationships between them. In terms of its results, the study found that the service recovery element 'compensation' had a significant positive effect on perceptions of distributive justice, and also on interactional justice, while the recovery mode of a service recovery effort was also found to influence interactional justice (so, for example, if a service was delivered online, customers expected to be able to complain and receive redress online). Both these dimensions of justice were cited by customers as having a significant effect on their intention to repurchase a service.

While Matilla et al. (2010) are concerned with similar stages of the service encounter as this research, most other studies in this area have confined themselves to determining relationships between justice dimensions and customer satisfaction, and in this respect there is some degree of agreement. For instance, a study by Casado-Díaz, Mas-Ruiz and Kasper (2006) found a strong connection between customer perceptions of distributive justice and their overall satisfaction with a service recovery effort, while also observing that, in what they term a double-deviation event (dissatisfaction with a service **and** a service recovery effort), emotional empathy by front-line staff can do much to diffuse feelings of anger and create eventual satisfaction. Meanwhile, in their investigation of the effect of perceived justice on repurchase intentions in the Iranian airline industry, Nikbin et al. (2011) also found distributive justice to have the strongest effect on intentions to repurchase, but also cited interactional justice as important in this respect. Lin et al. (2001) in their study into customer reactions to service failures in online retailers divided their customer satisfaction results into three elements: intention to repurchase, positive word of mouth and overall satisfaction. They found distributive justice to be highly influential on repurchase intention, interactional justice to strongly affect word of mouth, and distributive justice in relationship with elements of interactional and procedural justice to be most influential on overall satisfaction. The most influential relationships found in previous studies between the elements investigated in this research are presented in the following table:

**Table 2-1: An overview of research findings with regard to the most influential relationships between service recovery, justice and customer satisfaction**

Author	Delivery context	Service recovery	Dimension of Justice	Customer Satisfaction
Casado-Díaz et al. (2006).	Banking industry in Spain		Distributive justice	Overall satisfaction WOM
Yang and Peng, (2007)	Autmobile industry in Taiwan	Compensation Speed Apology Initiation	Distributive justice Procedural justice Interactional justice	Customer satisfaction ↓ Loyalty
Mattila et al., (2010)	Airline and hospitality industries in the USA	Compensation Compensation and recovery mode	Distributive justice Interactional justice	Repurchase intention Repurchase intention
Nikbin et al., (2011)	Airline industry in Iran.		Distributive justice Interactional justice	Repurchase intention Overall satisfaction WOM
Lin et al., (2011)	Online retailer in Taiwan		Distributive justice Interactional justice Distributive justice Procedural justice Distributive justice Interactional justice	Repurchase intention Positive word of mouth WOM Overall satisfaction WOM Repurchase intention Overall satisfaction WOM Repurchase intention

These studies suggest a pattern in recent research, showing a strong correlation between positive customer perception of the distributive justice dimension and a high level of customer satisfaction and repurchase intention. This study will therefore attempt to investigate the relationship between the justice dimensions and service recovery effort elements, that could influence and effect customer satisfaction.

## **Complaints in the Airline Industry**

Atalik (2007) stated that “although airlines have customer satisfaction as a major goal, not all airline experiences are satisfactory from the customer's perspective: service failures do occur in this industry. Air transportation may be particularly susceptible to the problem of service failure because of the number of different providers involved in delivering the service, the high number of passengers and the people-based nature of the service. If service failures are an unpleasant fact for airlines, then these organizations must develop clear strategies for responding to service failures as a way of minimising the adverse effect of the complaints of their customers. Frequent flyer programs, which develop customer loyalty, offer incentives to customers based on cumulative purchases of a given product or service from an organization. Reward programs are now increasingly common in a range of industries and include rewards for frequent flyers, preferred hotel guests and frequent shoppers at a particular enterprise” (p.412). Meanwhile, organizations can generate loyalty by fast and efficient responses to service failures; for example, (customer complaints levels significant influence the profitability of airlines. Tiernan, Rhoades and Waguespack (2008) highlight the positive correlation between Singapore Airlines (SIA). In terms of service and service profit excellence, this rests primarily on the efficiency with which service failures are overcome by the organization.

## **Complaint Behaviour Responses**

Customer complaint behaviour is a set of multiple behavioural (expressions of dissatisfaction) and non-behavioural (silent) responses, aroused by an unsatisfactory purchase episode (Singh, 2001 & John, 2007). Customer complaint behaviour has been classified many times based on different factors in order to understand the behavioural process implications and redress options.

One of the original classifications was that made by Hirschman (1970); a three-factor typology was developed to classify Customer Complaint Behaviour, (CCB)

**1-Exit** (The final step of the customer to terminate the relationship)

**2-Voice** (Complaining and giving inputs to improve and to maintain the relationship)

**3-Loyalty** (A passive response of simply accepting dissatisfaction).

A fourth component was added by Robson, (2002) namely neglect (allowing relationship with the firm to decay). Singh (2001) propounds a three-structure model describing.

**1-Voice** (seeking redress from seller).

**2-Private CCB** (negative word of mouth (WOM), boycott).

**3-Agency** (or take legal action).

## **Satisfaction with Complaint Outcome**

To decide whether to report a complaint or otherwise, dissatisfied customers examine a trade-off. They tend to analyse the probability of their voice being heard by the firm and the likelihood of gaining redress. In addition, customers must assess if it is worth the extra effort to go through the firm's complaint procedures (e.g., Hirschman, 1970; Day et al., 1984; Blodgett et al., 1993; Kowalski, 1996; Richins, 2000; Kim et al., 2009).

On the cost-benefit scale, customer's access service recovery based on whether they perceive it to be "worth it" or "not worth it," based on their evaluation of the probability of success of complaints voiced, the effort required to complain, and the value of the services in question. Three factors were first identified by Hirschman (1970). Many dissatisfied customers, while assessing a probability of success, conclude that complaining is not worth the effort, as it might not yield desired redresses, or the effort would go unheard, so they choose other means of dealing with their displeasure. Thus, if the process of complaining becomes easier and shorter and/or redress of the complaint becomes more certain with satisfying results, the feedback process will trigger the customer who is dissatisfied and customers may be more likely to lodge complaints against failures.

Instead of introducing a simplified process for customers to report their feedback and encourage and elicit the process of feedback, complicating the process sometimes emerges as the aim of some firms as they want to reduce the efforts of receiving the feedback and take corrective actions about the failures. The service provider introduces and develops many ways to make the process of feedback a discouraging exercise. Sometimes, when a customer tries to register a complaint, a firm prompts the customer to furnish details about the date of purchase, bill of the purchase, and time and place of purchase. And if a customer is ready to do that, the next step suggested is to complete the paper formalities of lodging the complaint in writing only and after all the events if the complaint is heard and resolved, the firm offers a

credit facility to the customer instead of offering cash compensation, which also takes longer as the management requires complete details to sanction decisions. Sometimes the time value and the utility of the service expire due to such lengthy and complex procedures that are required to be followed. Such practices surely help to keep the costs, but down dissuading customers from submitting genuine complaints will have an equal and opposite consequences in future times to come.

## **Customer Complaint and Business Performance**

Many business practitioners frequently seem to believe and perform as though customer's dissatisfaction is continuously connected to their complaining behaviour. Customers complain as they are dissatisfied. However, another important aspect is the belief is that customers who do not complain must be satisfied, which is not always true. People involved in customer research have clearly understood that only a small number of unsatisfied customers actually complain directly to businesses/service provider; a literature review gives a similar indication (Richins, 1985, Richins, 2000, Andreasen & Garbing, 2003; Harris et al., 2006). In today's competitive business environment, customer feedback becomes extremely critical and without feedback, businesses which cannot fix unidentified customers' problems loose opportunities to multiply and widen customer relationships. Another category of severe damage could be when a firm which is aware of problems reported by its staff does not take sufficient measures to resolve them. Oliver (1997) mentioned that over 50% of all customer complaints led to even more dissatisfaction ("secondary dissatisfaction"), just because the businesses did not respond well to those complaints. David (2003) discovered that a lot of business responses, specifically addressing the complaints raised by customers in feedback surveys, were major sources of customer dissatisfaction.

Dissatisfaction with the business reply hurts firms over a long run and leads to decreased future support of the firms, which in turn causes more secondary dissatisfaction among customers (Lee et al., 2004). A firm must give proper attention to customer communications, whether in the form of complaints or compliments. It should consider even subtle compliments as an integral part of the process which measures the extent and the focal point of customer dissatisfaction, even when these require slightly more than customers bestowing some sort of positive, above average rating on a company's customer feedback card.

Although, there is an assertion (Richins, 2000, Mohamed, 2000) that the objective of marketing managers is to increase the number of customer complaints to identify how well their companies are serving their customers, clearly there are still businesses which believe in the traditional and convenient point of view: "*The fewer complaints, the better.*"

A remarkable article by Lewis and McCann (2004) commented on the relative irregularity of customer communications post purchase, concluding that customers who complain will also compliment when warranted, but the majority of customers will do neither unless they feel strongly enough about how well firm would respond to their complaints. Oliver's (1999, p. 33) literature review confirms that "*Just as complaints don't always relate to dissatisfaction, compliments don't always come from satisfaction*" Quality of relationships with an individual customer and the prospects for future patronage behaviour is directly affected by customer communications which emphasise high involvement instances of satisfaction, dissatisfaction and information seeking (Kim et al., 2009). Harris, Mohr and Bernhardt, (2006) evaluated many potentially useful complaints which are never received, because customers prefer to discontinue patronage quietly instead of voicing their concerns.

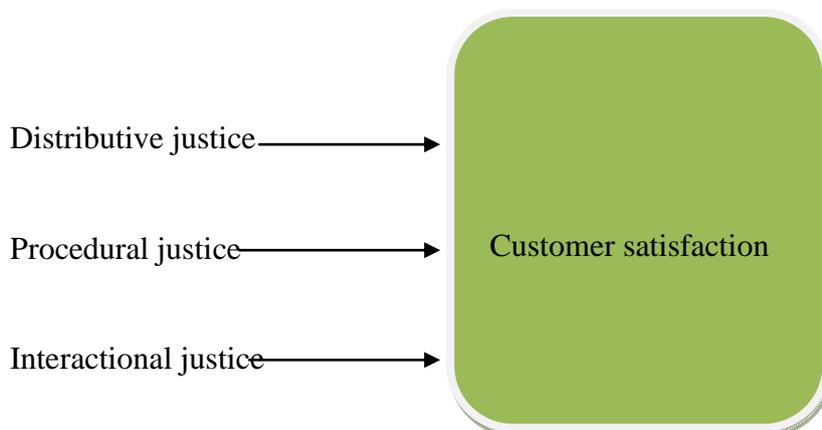
Management should clearly understand that such behaviour may occur for a number of correctable reasons. Customers' perceptions of the psychological costs of complaining, the customers' low "*coping potential*" which results from a lack of experience, fear of interpersonal discomfort, conflict and a low appraisal of the chances of positive outcomes of the situation may all contribute to customer's choice not to complain. Therefore, firms must ensure that complaining is made less cumbersome for customers and reward them in order to benefit from the information communicated through complaints.

Lewis and McCann's services marketing text (2004) reviewed the need for continuous customer research to monitor company performance as a means of preventing the above mentioned silent customer loss. Solicitation of customer complaints and post-transaction surveys are practices at the top of their list of methods to accomplish this. There are many ways businesses initiate communication with customers, such as by intermittently conducting formal surveys, interviewing key customers, providing customer comment cards at the point of sale. This study will approach the question of the relationship between service recovery efforts and perceptions of justice, with satisfaction as an outcome, by surveying a sample of

the customers of two Libyan airlines, irrespective of whether they have complained of a service failure or not.

### **Towards a Service Recovery Framework**

The framework of this study uses a standard conceptualization of customer complaint behaviour. Generally it is assumed that customers complain when they are dissatisfied with an organization’s performance on a particular product/service. The level to which they are dissatisfied will be reflected further in the occurrence of complaints and also in the meaning which they attach to their complaints. Having received complaints, organizations may try to resolve them. The capability of the organization to do so will then be reflected by the level of customers’ satisfaction with the outcome of the service recovery. In turn, customers’ degree of satisfaction with the resolution will be fed back to, and may amend, their initial level of dissatisfaction with the organization’s performance on the feature in question (Yi et al, 2010; Lin & Wang, 2011). As discussed earlier in this chapter, a major component of customer satisfaction with efforts at service recovery is the customer’s perception of the justice with which they have been treated, procedurally, interactionally and distributively. These perceptions of justice contribute to the construction of customer satisfaction as a concept, as seen in the figure below.



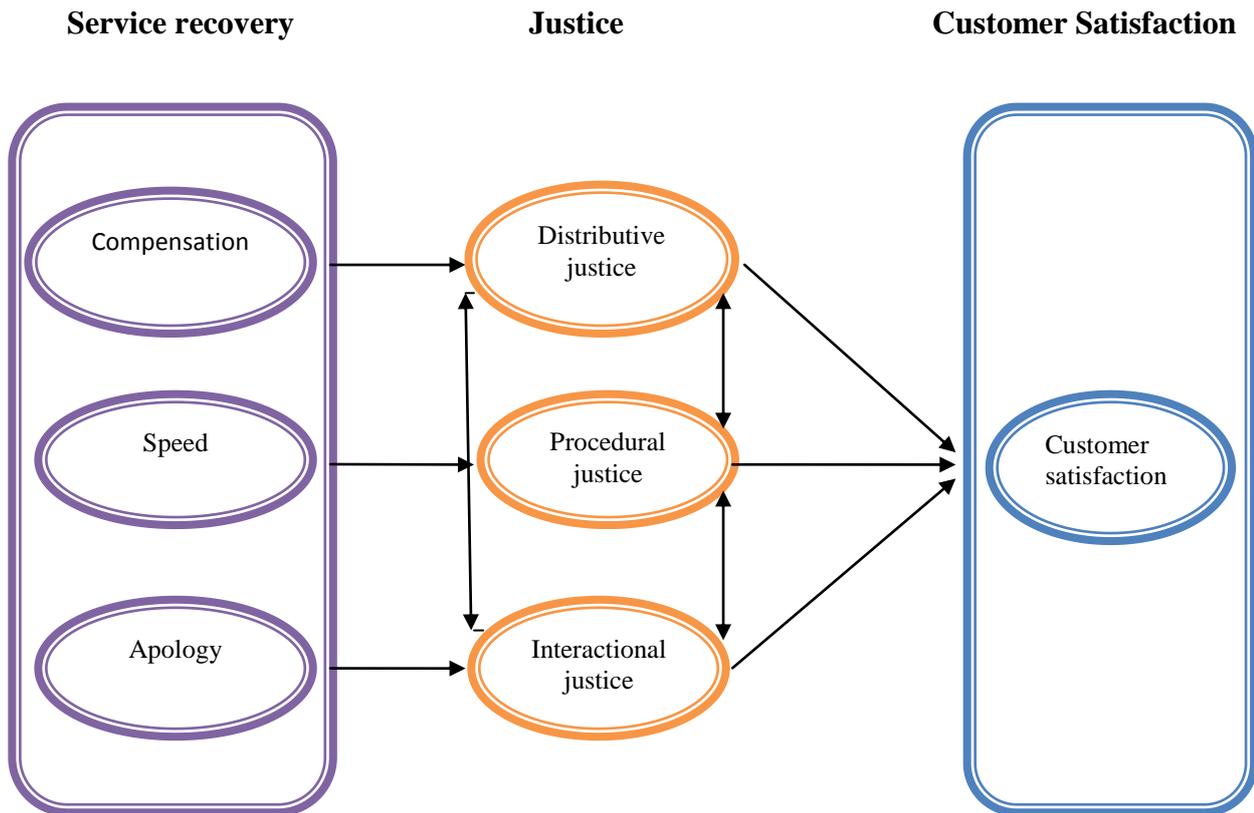
**Figure 2-3: The elements of customer satisfaction**

Customer satisfaction must be the goal of all service provision efforts, given the benefits in terms of loyalty and repeat purchase already mentioned. In a service recovery effort the goal of customer satisfaction is even more important, because due to a service failure the customer

is dissatisfied, and must be returned to a condition of satisfaction, even if it is only with the service recovery effort itself. This allows for the tentative proposal of the model arising out of the discussion of service failure, or recovery, justice and satisfaction so far.

### **Initial Theoretical Model Resulting from the Literature Review**

The initial model resulting from the literature review and representing the relationship between the elements of the study is shown below. The arrows indicate the movement of a successful service recovery effort through the elements of compensation, speed and apology to show their effect on customer perceptions of the different justice types. These perceptions then lead on to a result of customer satisfaction, which is the desired end point of a service recovery effort. These are the elements of the study which the research instrument must investigate, and it must be capable of establishing the relationships between these elements, and the extent of customer satisfaction with service recovery efforts in the Libyan aviation industry. However, this study does not seek to measure levels of customer satisfaction: it is assumed to be the conclusion of a service recovery effort and its existence is tested by the research instrument, but not its extent. This study is more concerned to establish the relationships between elements of service recovery and how they impact upon the dimensions of justice: thus, customer perceptions of distributive justice is investigated by the research instrument through questions related to the compensation offered for a service failure; procedural justice is tested by questions relating to the speed with which a complaint or failure was dealt with; while interactional justice is tested by the nature of the apology offered for a service failure. This study will therefore attempt to identify which elements of an airline's compensation efforts lead to positive perceptions of distributive justice, and whether any of the dimensions of justice is relatively more important in the achievement of customer satisfaction.



**Figure 2-4: Initial theoretical model resulting from the literature review**

## Summary

Examples of research and theories about customer satisfaction in services provision are numerous, varied, complex, and widely debated. The body of literature results from joint efforts by scholars, businesses, and nations. Service failure and recovery and the links between service quality, customer satisfaction and firm performance are important topics, and have been extensively researched and employed. The service recovery model is further supported by research into behavioural intentions. Research indicates that the interactional, distributive, and procedural constructs of justice, individually and in combination, guide customers to conclusions about service quality and levels of customer satisfaction, influencing behavioural intentions that translate directly into income and costs for a firm.

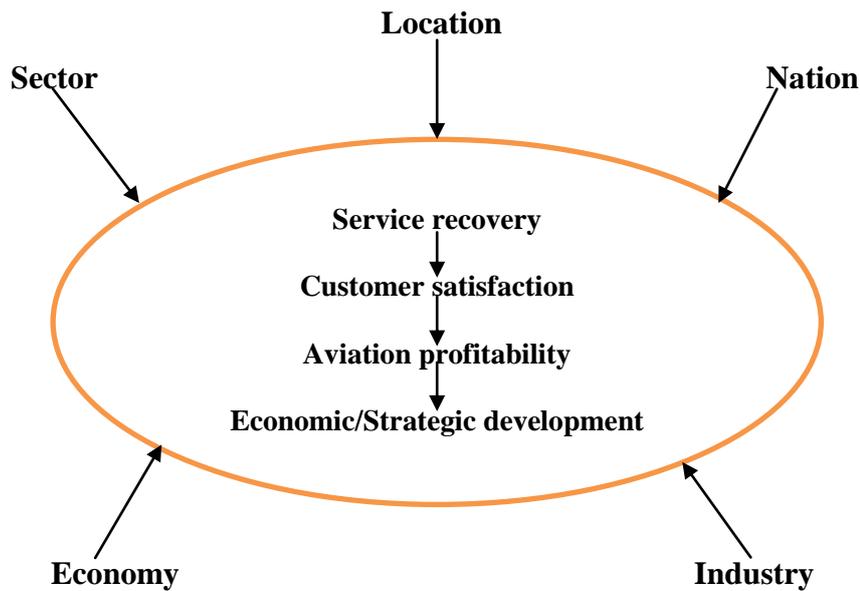
Customer delight, trust, commitment, and loyalty are achievable when a firm delivers satisfying or highly satisfying service. However, even loyalty is no guarantee that a customer will not defect. Both disappointment and regret are related to a customer's decision making

process. Customer defection is costly for firms, and the extent to which it is under their control is a subject in need of further study. Before considering the appropriate methodology for this study, it is first necessary to provide some background to the research context; in the form of an overview of Libyan aviation and the two Libyan airlines whose customer's constitute the study population.

## Chapter 3 The Development of Libyan Civil Aviation

### Introduction

In order to justify the selection of the Libyan civil aviation sector as a subject for research, it is necessary to consider the role that this business plays in a developing country, and the forces that influence this role. The airline industry is part of a nation's transportation infrastructure, and as such of strategic importance, meaning that the forces that affect it include: location in terms of a country's geo-political and economic surroundings; the wider economy of the nation, in which airlines can be drivers of growth, development and knowledge transfer; the sector in which it operates and the commercial pressures within this, both national and international; the national importance of an airline in terms of prestige, independence and technology transfer; and the effect of civil aviation on a country's strategic economic aims. This chapter will therefore seek to set Libyan civil aviation within its context at the time of data collection, taking account of the link within the conceptual framework between service recoveries on the one hand, and airline profitability and economic development on the other. The following figure (3.1) illustrates the context this context which this linkage occurs, and which is examined in this chapter. As this research is being completed in 2012, it is important to note that the popular uprising begun in Libya in February 2011 has had a profound effect on the Libyan aviation industry. Contemporary statistics are not available, for example, on current passenger numbers in and out of the country, because even if flights have been available these data have not been collated at a national level. Furthermore, many of the infrastructure projects designed to boost Libya's status as a transit hub have been delayed or cancelled, and the airlines themselves have faced disruption to their plans for expansion of routes and capacity. The picture of the civil aviation industry presented in this chapter should therefore be seen in the light of a slowed process slowed by subsequent events, but not stalled.



**Figure 3-1 : Forces influencing the movement from service recovery to national strategic development.**

In recent years the worldwide civil aviation industry has witnessed rapid corporate, structural and operational changes enabling it to be described as one of the fastest changing sectors within the transportation industry. This unparalleled development in the civil aviation industry has been the result of external rather than internal forces. In the current operating environment, many “legacy” airlines, founded in the years of airline expansion as national flag carriers in many cases, have implemented extreme financial and operational measures to stay afloat. This chapter will consider the development of Libyan Airlines and Afriqiah Airlines in the context of African and Middle Eastern aviation, and will briefly outline their strategic importance to Libya and the role they are expected to play in the country’s on-going economic development. Doganis, (2009) reiterates that the airline industry is inherently unstable because it is an industry constantly buffeted by new developments and constraints. The evolution of the civil aviation industry can be broken down into five major stages, as summarized in Table 3-1. As it grew and took shape, some of these developments in the industry changed the way it grew and operated. The entrance of the low cost carriers’ business models has been widely praised for challenging several inefficient airline business practices. However, currently business models of both traditional carriers and low cost carriers worldwide are being tested by the global financial crises.

**Table 3-1 : Stages in the development of Commercial Civil Aviation**

year	Stage	Characteristics
2010	Stage 5	<b>Quality</b> , importance of airports, alliances, passengers, global airline industry
1990	Stage4	<b>Network and alliances</b> : consolidation stage, importance of airports, system of world alliances, network management, low cost carriers
1973	Stage3	<b>Quality and cost</b> : deregulation, open sky policy, new price structures, new types of service, new entrances with new business, Cost efficiency, hobbling
World War II	Stage2	<b>Political: fast progress</b> : international standards for air transport regulation, bilateral agreements between countries, financial power, route networks
1925	Stage 1	<b>Technical</b> : adventurous form of transport, hardly any airlines profitable, supply side of business

(Source: Beiger et al., 2010, p. 325)

## Airline Business Models

Various airline business models have developed over the years, in order to compete and survive in the industry. Each of these models is characterised by several strategic factors that are crucial for their success and these are briefly outlined in table 3.2 below.

**Table 3-2 : Strategic business factors for airline models**

Network Carrier	Regional carrier	Low Cost Carrier(LCC)	Charter Carrier
Network Effects	Niche markets	Simple processes	Integration in tour operator value chain
Hubs	Low cost routes	Niche markets	Capacity management
Growth and market share	Flexibility	Marketing	
Co-operation to build global links			

(Source: Beiger et al., 2010, p.328)

Libyan Airlines and Afriquiah Airlines are at the stage of cooperating with each as network carriers, other in order to build global links and establish those was as an integrated business,

with the potential to expand and move to the next level of the model above growth and market share.

## **The African Aviation Industry**

The African aviation industry has faced many problems over the last three decades; the extent of these problems is due to the fact that this industry is very dynamic and its rules and regulations have been standardized worldwide. There is also increasing pressure, especially on state-owned airlines in Africa, to improve their operational efficiency and profit levels in an environment characterized by calls for privatization, rationalization through alliances with foreign airlines and increasingly stringent operating, environmental and economic regimens. These factors all represent part of the industrial context within which the two airlines studied operate.

## **Weaknesses in the Sustainability of African Airlines**

In addition to their intrinsic weaknesses within the airline industry, which include high capital costs and low profit margins, African airlines face various challenges to operating commercially viable air transport services on the continent:

**1-** State owned airlines may often suffer from interference from certain government departments that do not make profitability a priority (Doganis, 2009); African carriers suffer from under-capitalization and a chronic shortage of financing, whereas their investment needs (i.e., in aircraft, maintenance, etc.) are enormous and prevent them from providing transport modules that are adapted to their market.

**2-** The load factor, which is the ratio of the revenue passenger kilometres (RPK) to the available seat kilometres (ASK), is one of the critical determinants of profitability in relation to the breakeven load factor. The African region has the lowest load factor at 62.56%, compared with other regions of the world. The Far East and Pacific regions have relatively high load factors, averaging 76.32%. The low load factors are a reflection of the scarcity of routes in the African region. The routes are scarce because of the much higher air fares compared with those in other regions of the world and because of a relatively poor population, hence the sparse travel demand on the continent.

**3-**The elasticity of demand, with respect to fares, for all travellers is lowest in Africa and highest in the USA. This is a reflection of the limited options available to travellers within Africa (Chingosho, 2005). Low income levels affect the majority of the population groups for all African countries. This results in low levels of disposable incomes and very small markets (i.e., business or leisure), which in turn makes it difficult for airlines in these countries to generate sufficient returns on aircraft investment.

**4-** Minimal use is made of modern technology within the continent, (e.g., management and decision information systems, online reservations, e-ticketing etc.). This use of modern technology poses a challenge because it can be costly but crucial to the sound management of airlines.

**5-** Very few airlines operating within Africa have membership of world airline alliances. This has become one of the conditions for the full service network carriers (FSNC) survival. The minimal involvement of African airlines in world airline alliances has resulted in a marginalisation of African carriers from world markets, as alliances build networks through connections on various continents and attract and retain passengers through loyalty schemes. The majority of African airlines have been denied any form of alliance membership due to their non-compliance with international norms and standards or their inability to attract high passenger volumes. Furthermore, membership into these alliances is quite expensive for a continent where eight per cent of the state-owned airlines are going through financial problems and are currently considering privatization. Currently, only five airlines, Afriqiyah Airways and Libyan Airlines (both belong to Libyan African Aviation Holding Company (LAAHCO) as full member in 2008), Egypt Air (joined Star Alliance as full member in 2008), Kenya Airways (joined Sky Team alliance as associate members since 2007) and South African Airways (joined Star Alliance as full member in 2006) are members of world airline alliances.

**6-** In 2005, Africa had a fleet of 1,165 aircraft, including 605 jets and 400 turboprop airplanes; their average age was 20 years, compared to 12 years in North America, 9 years in Europe and 7 years in South-East Asia. (Chingosho, 2005). African carriers often use old generation fleets, some of which do not comply with international standards, making them primary targets for blacklisting in certain regions of the world.

**7-**Direct operation and service costs in Africa are higher than in other parts of the world: cost of fuel, ground handling, and financial expenses (i.e., cost of capital); staff training; maintenance of aircraft, computer equipment and telecommunications; etc.). The highest component that increases the cost of fuel into the continent is the transport cost, because

many African countries are landlocked. Therefore the airlines face pressure to represent their countries as being internationally competitive.

The seven points listed above represent the constraints of the African locational context within which the two airlines operate. However, consistent with Libya's ambition to be a transit hub, it must be recognized that it also belongs to another geopolitical and cultural grouping, which is discussed in more detail below.

### **The Middle East's Rapidly Developing Aviation Market**

According to the World Tourism Organization (cited in Fadi & Jürgen, 2008, p. 6), "the Middle East is comprised of Libya, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Syria, the UAE and Yemen, with Israel placed in the East Mediterranean Europe category (World Tourism Organization, 2005). The collective population of these states was approximately 179 million in 2009, which constitutes just 3 per cent of the world's population (IMF, 2009). The six main countries that are classified as the engines of growth in the Middle East are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates (UAE), and are collectively known as the GCC (Gulf Cooperation Council) countries. There are 24 member airlines associated with the Arab Air Carriers Organization (AACO) as the assembly encompasses all the Arab nations, stretching from the Persian Gulf right across Northern Africa to Morocco – a distance of some 6,450 Kms."

This source goes on describe the reasons for the middle-east's rise to aviation prominence, stating that: "the Middle East has long been seen as a geo-economic and geo-political epicentre of the world because of its vast reserves of hydrocarbons, while at the same time the region has been in a near constant state of conflict, keeping it under the spotlight of international attention. However, over recent years, there has been a tectonic shift in the global air transport market primarily because of the rise of the Middle East carriers, and in particular Arabian Gulf based airlines, which are beginning to have an impact on the global airline industry. IATA data for 2006 highlighted that the growth in Middle East Revenue Passenger Kilometre had surged to 18.1% - more than twice that of Africa, which recorded the second highest growth rate" (cited in Fadi & Jürgen, 2008, p. 6)

The international Civil Aviation Organization (2009) calculated that the air transport market in the Middle East is a mere 4.5% of the total global market. However, in this region there has been a movement of passengers towards international traffic, they now represent 7% of world travel- there were about 79 million passengers transported by the 24 members of the Arab Air Carriers Organization in 2009 (Ea, 2009).

Etihad Airways (not a member of this group) carried an additional 46 million passengers to the Middle East and North Africa in 2009. Thus, the total air transports market in about 125 million passengers, with a high concentration of traffic in the Persian Gulf states. Middle East carriers also quoted carrying some 2.2 million tons of cargo in 2009, with Emirates Airlines responsible for more than 45% of these goods (Air Cargo World, 2006). Passenger traffic shipping and cargo at airports in the Middle East increased by 120% and 110% respectively from 1998 to 2009. Sharp traffic in traffic were seen after 2003, due to a large extent to the additional capacity created by Emirates Airline, Qatar Airways and Etihad Airways. In 1988, the Arab airlines fleet of 150 aircraft had a carrying capacity of an average of 170 seats, but by 2009 this had grown to a fleet of more than 600, with a card average of 210 seats, while the number of wide-body aircraft by increased 50%. The general market expectations of Boeing (2009), which manufactures about 39% of the world's fleet of twin-aisle aircraft, is that airlines will in future consist of no more than 4% of aircraft that are the size of 747 or greater. However, the Middle East Market is unique and very nearly 57% of aircraft in active service are of the wide-body type.

The 24 carriers who are members of the AACO (Arab Air Carriers Organization) have some 800 aircraft on their systems, which are equal to almost the joint fleets of Air France, and British Airways, Cathay Pacific, Iberia and Singapore Airlines. It is estimated that a large percentage of the fleet on the system of the airlines in the Middle East belong to Emirates Airlines, Qatar Airways and Etihad Airways. This represents a major threat to Europe and to the rights of the three Asian carriers to continue to be carriers to the Persian Gulf and to utilise their freedom of movement of large amounts of traffic from the hub cites of Asia, Africa, Europe, and Americas through the axes of each (i.e., Dubai, Doha and Abu Dhabi). Thus, where the Gulf States have diversified their economy by reinvesting oil revenues into airline routes and aircraft, Libya has a similar cultural makeup and access to revenue to make a similar investment and help it achieve its ambitions for economic diversification, provided

international customers can be persuaded to fly with these airlines; customer service is vital to this ambition.

## **Strong Prospects for Further Airline Industry Growth**

In terms of the economic context in which Libyan airlines were operating in 2009, the world economy was suffering the effects of an international banking crisis and many economies were either growing more slowly or contracting. At the time the research data for this study were collected, the global airline industry was in a period of weak market conditions; indeed, the global airline industry had been stagnant since late 2008. It recorded large fourth-quarter losses in that year, leading to annual losses of over \$10bn amid weak market conditions in 2009. While Libyan carriers may not yet be driven by the same measures of profit and loss, their level of business in 2009 suggests that the state's airline operators have outperformed this trend to some extent. Although the majority of international carriers have frozen or cut capacity, with a consequent boost to passenger load factors, standing at 77.6% in December 2009 compared to 73.8% in December 2008, many airlines are considering an entry to the Libyan market. The Libyan airline industry is cautiously optimistic about the prospects for strong growth over the coming decade, as long as the infrastructure is put in place to support it. The annual growth rate for the air cargo business is 4-5% in trade between Africa and Europe. The last 12 months have proved a difficult time for the international transport industry.

However, while 2010 was a testing year, Libya has been steadily upgrading and developing its transport infrastructure, putting it in a strong position to capitalize on improved conditions in 2011 and beyond. The government's reserves have benefited from higher oil revenues, which helped it record a fiscal surplus equivalent to 25% of GDP in 2009. Libya is therefore able to invest in infrastructure projects at a time of low material and building costs.

Despite the global prognosis, the Libyan transport industry is displaying a sense of optimism. The development aided by the lifting of UN sanctions in 2003 and US sanctions in 2004 has perhaps boosted transport more than any other sector.

The country's carriers continue to be sustained by domestic traffic, which formed the majority of their income in the years of international sanctions, insulating them to some extent from the loss of international business in the wake of the global financial crisis.

However, all facets of the industry, from shipping to airlines, are projecting rapid growth as they continue to develop their access to international markets.

The demand drivers for Libya's transport sector look positive. Both imports and exports rose steadily between 2001 and 2007. Imports have increased by 220% to LD8.5bn (€5.04bn) in this spell, while exports have increased by 660% to LD40.97bn (€24.27bn) in the same period. The growth in exports has been driven by hydrocarbons, with mineral fuels, lubricants and related materials accounting for over 96% of exports in 2007. While this has largely been to the benefit of specific companies within the shipping industry, the country could diversify its export base and at the same time become a focus for the re-export of goods to Africa.

In terms of achievement, the aviation industry stands to benefit from the plan to attract 20m visitors per year within the next 25 years. If tourism's percentage contribution to GDP would be higher than that of the oil and gas sector, it would also mean that Libya could attract four times more visitors than its national population. However, many developments are necessary to make this ambition come true, starting with upgrading infrastructure, creating new tourism facilities and having good advertising and media support for this strategy.

The country has also taken significant steps to improve its overall trade environment. In 2005 the "Libyan Customs Administration cancelled duties on more than 3500 product categories" (Vandewall, 2006, p. 346) and Libya scored 90 out of 100 for trade freedom on the Heritage Foundation's 2010 Index of Economic Freedom, placing it well above the world average of 73.2. The improvement in the environment for trade transportation has been reflected in the significant increase in goods and passengers passing through the country transport. Libya has also witnessed a dramatic increase in air traffic. Tripoli International Airport recorded a 12.9% increase in passenger numbers in 2008, topping the 3m-per-year mark. The two state-owned carriers, Libyan Airlines and Afriqiyah Airways, benefitted from this rapid growth. Libyan Airlines recorded growth figures touching 7% between 2006 and 2010 on both domestic and international routes. In 2008 the company carried almost 900,000 passengers, 68.25% of whom were on international routes.

However, serious impediments to the further development of the transport industry still exist. The Heritage Foundation notes that import bans and restrictions as well as other non-tariff barriers including subsidies and customs corruption increase the cost of trade. Furthermore, delays and non-transparent regulation increase transport times within the country.

The government is not only concentrating on upgrading the country's land transport network but also improving accessibility to Libya by sea and air routes. The \$2.1bn expansion and upgrade of Tripoli International Airport is expected to increase capacity to 20m passengers a year from the previous 3m by end of 2012. This will entail the construction of two new passenger terminals and a new runway. In September 2007 a joint venture between Ode Brecht of Brazil (50%), TAV of Turkey (25%) and the Libyan Consolidated Contractors Company (25%) won the €970m contract to construct the passenger terminals. Airports de Paris Ingenerate (AdPI) holds the contract for the management and engineering design of the project, which is was due to be completed by 2011 and be able to handle 20m passengers when finished. AdPI is also managing the development of Benghazi airport, which is part of a broader strategy to upgrade all 13 of the country's airports. In September 2008 the Canadian firm SNC Laval won the contract for the construction of the €350m Benghazi project (Vandewall, 2006).

The Benghazi international airport is expected to be able to handle 5m passengers upon completion in 2010. Libya is also set for a major restructuring of its aircraft handling and maintenance, repair and overhaul services. To be led by the Libyan Aircraft Engineering and Maintenance Company (formerly the Libyan Handling and Aircraft Maintenance Services), this programme will mean upgrading the provision of aircraft handling services and the construction of a regional aircraft maintenance centre.

The government is focusing extensively on upgrading infrastructure in a bid to increase traffic flow in the country's transport networks. These moves should smooth the expected increase in the flow of goods and people over the coming decade, with the current transport infrastructure ill-equipped to deal with both the unsatisfied demand and the projected potential increases over the coming years. The government has money to spend and should benefit from the improved cost conditions for contracting infrastructure work as a result of the global economic slowdown. While there is some danger that the country will suffer from overcapacity, these various, necessary transport upgrades will serve the country well for many years to come. Tripoli is not competitive enough in regulatory terms to compete with Cairo or South Africa, but it is expected that the city will emerge as a hub and that the infrastructure upgrades will be supported by regulation to facilitate this.

Libya's ambitions are bold in view of the state of the global industry. In 2008, global combined passenger and freight traffic recorded its sharpest yearly decline since the end of the Second World War, dropping by 6.1% in tonne flown. While global air freight volumes recovered somewhat from the low of the fourth quarter of 2008, climbing by 24.4% in 2009, Libya has plans to outperform the global pattern in growth terms. For example, European airlines' freight volumes were only 5.2% up year-on-year by December 2009 and still 20% down on freight volumes in the first quarter of 2008, according to the International Air Transport Association. (Vandewall, 2006). The airlines studied therefore found themselves with ambitious expansion plans in a period of depressed demand, and this situation represents the sectoral context in which this research should be viewed.

In terms of establishing itself as a transport hub, Libya has much working in its favour, not least low fuel costs. For a company to achieve profit margins of around 1% above the market average for freight-carrying on the Dubai, Tripoli and Amsterdam-Tripoli routes, cheaper fuel makes it profitable to transit through Tripoli for Asian and Middle Eastern firms looking to continue on to Europe or Africa. A foreign company will fill up the aircraft at a rate of \$0.45-\$0.50 per litre while Afriqiyah benefits from a discounted rate of \$0.25 per litre; low fuel prices can work to Libya's advantage for passenger flights as well.

The ant-turn all depends on the government's policy. It may be possible to make Tripoli a hub as it is centrally located between Europe and Africa and is in an oil-producing country. This can keep fuel cheaper than in many of countries, which could attract transit stops and refuelling. With fuel accounting for up to 33% of operating cost, compared to 12.5% 25 years ago, cheap fuel is a significant incentive. Tripoli's prospects will also be palmed boosted by the expansion of the international airport to a capacity of 20m passengers a year by 2012.

Libya transports 30% of its cargo by air, but this should increase as the airport infrastructure improves. This should help the two national and 24 international carriers serving Libya to build on a steady renaissance in the country's airline industry. Having re-established itself in the wake of the international flight embargo from 1992-99, Libyan Airlines is now contemplating a period of aggressive expansion. The company is set to increase its fleet from 10 aircraft to 25 (Endres, 2008).

The first upgrade in its stock occurred in September 2010, when the company received the first of seven A320s, which were purchased in 2009 for an undisclosed fee. Libyan Airlines had already ordered four A330s, the first of which was due to come into service in 2011, and four A350s, which will be delivered from 2017. For both domestic and international carriers, the subsidised cost of domestic fares, in particular, are constricting operators' profit margins. At the time of writing, a fare between Tripoli and Benghazi costs LD60 (€36). (Brancatelli, 2012)

The Civil Aviation Authority has to sanction any fare increases, with this route seeing only small price increases in the last five years. The government wants to keep domestic fares as low as possible because Libya is a country with poorly maintained roads. The government is encouraging people to use air transport as a means of passenger movement around the country. However, the government's wish for subsidised transport must be matched by government funding of air fares; this cannot be provided by the airlines.

This issue is pertinent at a time when a merger between the two largest domestic carriers, Libyan Airlines and Afriqiyah Airways, is being considered. The extra competitiveness that ensues could well be blunted by subsidies, which would make the international competitive position of any new national carrier much weaker. However, government support has also worked in favour of national airlines as part of a strategy to improve access to the country. Indeed, Libyan Airlines and Afriqiyah seem to be following the model adopted by their counterparts in the region. Firms in the Gulf, such as Qatar Airways or Emirates Airlines, have followed a similar pattern, with their respective governments using their airline to become the preferred stop-over destination in the Middle East. These companies are also benefitting from subsidies (Endres, 2008).

The plan of attracting 20m tourists in the next 25 years will be difficult, given that Libya currently attracts fewer than 500,000 visitors a year. The plan should be more realistic and try to reach 5m first with gradual extensions to the target. Otherwise, the plans for new giant airports with all their equipment and technology will not be matched by demand. Passenger number growth will be dependent on the country's visa regulations.

Many airline executives were predicting a boost in numbers in 2010 as a result of more efficient visa regulations for European citizens. This included new provisions for visas on

arrival for Europeans. However, such predictions have been jeopardized by the decision in February 2010 to deny visas to citizens possessing a European Schengen passport. While this policy was swiftly amended, the unpredictable nature of Libyan entry requirements may have a lasting impact on air passenger volumes for both business and leisure travellers.

Notwithstanding these difficulties, Libya airlines are in a period of rapid change, which local operators are confident will continue to see rapid growth. Furthermore, international carriers seem to agree, and regional operators such as Etihad Airways of Abu Dhabi signed agreements to open new routes to Libya in 2010. This expansion has been delayed by the popular uprising began in Libya in February 2011, and is unlikely to be rescheduled until there is greater confidence in the security situation in Libya.

## **Airline Marketing**

In addition to the four 'Ps' of the traditional marketing mix (product, price, place, promotion), airlines and service companies should focus on service marketing, which adds three additional Ps to the marketing mix. First, the people or the staff of the airlines, who play a major role in customer satisfaction and loyalty. Second, the process that is the way to deal with the airlines and manage their customers, for example, a special office and showrooms for customers loyal to the company. Third, the physical evidence provided to the quality of its services, for example, in the case of an airline the hospitality of air or land, and the cabin staff's courteous behaviour. (Fix & Buika, 2010)

From the viewpoint of client or customer-focused marketing, knowing the needs and desires, of customers and how to meet and satisfy them is essential. The company divides marketing to customers (in the case of airline passenger marketing) into sectors based on their needs and desires. In this research, according to the literature review and questionnaire, customers are divided into business and tourists visiting friends and relatives, and students, and travellers travelling to receive medical treatment. Each one of these passengers (customers) has particular needs and wants. For example, punctuality is what business travellers want, comfort is very important, while the price for the tourist traveller is important. Despite these facts, some of the basic needs in the marketing of airlines are common to all customer segments, such as justice in general.

The effective marketing of aviation requires an understanding of the process of decision-making which helps to develop effective marketing plans, and can be regarded as a decision-making process with a number of steps, which are: (IATA, 2006):

- 1 - Select the time and cost parameters.
- 2- Compile a short list of destinations.
- 3 - Compare brochures.
- 4 - Develop a flight reservation system.
- 5- A very important aspect in marketing is the aviation systems of governments and organizations (IATA, 2006) that affect airline operations. Steps have been taken to liberalize the aviation industry in many countries, but in Libya, this fact has not been achieved, especially for Libyan Airlines and Afriqiyah Airways carrying the national flag of Libya. This disadvantage facing the country is due not only to the country and the government, but is also the result of foreign policies against Libya, which have severely affected air transport in Libya.

### **Libyan African Aviation Holding Company (LAAHCO)**

Afriqiyah Airways and Libyan Airlines both belong to LAAHCO. Both airlines received direction from one owner. Each has its own business plan but both companies cooperate in various areas, including scheduling, fleet planning, network unification and collective services purchasing. Currently, both firms are working to implement administrative uniformity. The airlines are heading for a total alliance – eventually they will offer two complementary brands under a single corporate structure, guaranteeing the fullest possible expansion, particularly given the present and foreseeable economic climate. Merger is a lengthy process, especially since both airlines still need to complete their current fleet plans and expand their networks.

Once both airlines are mature and ready, merging them will be a matter of implementing statutory amendments to the act of incorporation and unifying the board of directors and senior posts. The rest will almost be routine. For almost four decades there has been only one domestic network operator, although in the previous 10 years some privately owned airlines have entered the market. These operators have tested the effectiveness of the public sector at the domestic level (Khalifa, 2004).

The relative freedom from competition enjoyed by the two principal Libyan airlines has led to an approach to customer service, and in particular service recovery, characterized by a reactive attitude and an unwillingness to engage directly with the customer. Libyan airlines tend to wait for complaints, and then attempt to deal with them. This is often a slow and bureaucratic process, and fails to reflect the speed with which problems occur and need solving in the airline industry.

Prior to conducting the field study for the collection of research data necessary to answer the study's aims, the researcher visited each airline surveyed and in addition to formulating a practical plan for the data collection phase, the researcher noted from close observation during the data collection process that the Libyan airlines did not take the initiative in matters of service recovery, but tended to be led by customers into courses of action: moreover, extensive enquiries failed to uncover any research undertaken by the companies themselves into questions of satisfaction, or perceptions of justice in connection with service recovery efforts. In general airline employees were helpful and responsive, and they became more willingly to talk about the approach of their airlines to customer service once they appreciated how much the study would reveal the strengths and weaknesses of their service recovery option.

Libyan Airlines is still the primary domestic operator, and it recently announced plans to serve more domestic routes in an effort to safeguard its market share. The number of private operators has diminished to two recently, and no new entrants are in sight on domestic routes. Unless Afriqiyah Airways decides to keep operating on major domestic routes, Libyan Airlines will continue to see little competition at home. The international financial downturn has had little effect on on-going tourism development projects in Libya. The country still boasts numerous business opportunities as it continues to build up its infrastructure and improve the quality of life for its citizens.

This on-going development is highly visible. In Tripoli alone at least 10 five-star hotels are being built and a number of four- and three-star hotels are already complete. Whole tourist villages are now operational and many more are being erected. The movement of passengers and air freight has increased in line with the government's goal of becoming the gateway to Africa. All this traffic creates enormous opportunities for Afriqiyah Airways and Libyan Airlines. The two airlines' joint network currently covers 46 international destinations.

Johannesburg and Dhaka are presently the longest routes operated from Tripoli. By the end of 2010 the joint network will include more than 60 international destinations. A non-stop flight to Beijing will be the longest. Libya's national airlines have never before stretched this far or this wide. The network expansion has led to fleet expansion as well. The combined company will be receiving 10 Airbus A350s from 2014, which will serve the hub facilities at the Libyan airports that are currently under construction. (Endres, 2008)

Around the world low-cost carriers (LCCs) are gaining momentum and ensuring growth in the aviation business. The LAAHCO has been considering the possibility of encouraging LCCs for 10 years and they are felt to offer some benefit to the region. However there are structural impediments that currently constrain the implementation of such a network. First, LCCs are successful when they bypass major airports in favour of nearby regional airports, which tend to charge less than major hubs to attract traffic. (Endres, 2008)

Regional airports are currently lacking in Libya. Secondly, internet usage needs to expand, as LCCs rely on electronic ticketing. The retail credit system must be more mature than at present. As more regional airports are opened to international travel and the use of the internet as a trading tool becomes common in Libya and the surrounding countries, a Libyan LCC could eventually emerge.

**Table 3-3: Carrying capacity of Libyan Airways and Afrqiah Airways (2009-2010)**

Data	Afrqiah Airways		Libyan airways	
	2010	2009	2010	2009
Number of flights	8680	8091	17350	13100
Number of destinations	32	24	35	22
Aircraft purchased	10	9	11	10
Aircraft leased	1	4	2	3

**Source: Annual report of Afrqiah and Libyan airways, (2010-2009), p. 35.**

**Table 3-4: Purposes and destinations**

Sequence	Afriqiyah Airways 		Libyan airways 	
	Country	Destinations	Country	Destinations
1	South Africa	Johannesburg	UK	London
2	South Africa	Cape Town	UK	Manchester
3	Belgium	Brussels	Germany	Frankfurt
4	France	Paris	Italy	Milan
5	France	Lyon	Italy	Roma
6	Netherlands	Amsterdam	Greece	Athens
7	UK	London	Turkey	Ankara
8	China	Beijing	Turkey	Istanbul
9	Germany	Dusseldorf	Ukraine	Kiev
10	China	Guanchoa	Austria	Vienna
11	Philippines	Manila	Spain	Madrid
12	Saudi Arabia	Jeddah	Saudi Arabia	Jeddah
13	Egypt	Cairo	Syria	Damascus
14	Senegal	Dakar	Jordan	Oman
15	Benin	Kotno	Egypt	Cairo
16	Bangladesh	Dhaka	Egypt	Alexandria
17	Central African Republic	Bangui	The United Arab Emirates	Dubai
18	Congo	Brazzaville	Saudi Arabia	Medina
19	Cameroon	Douala	Tunisia	Tunisia
20	Sudan	Khartoum	Tunisia	Sfax
21	Mauritania	Nouakchott	Morocco	Casablanca
22	Nigeria	Lagos	Malta	Valletta
23	Nigeria	Lome	Algeria	Algeria
24	Chad	N'Djamena	Niger	Agadez
25	Niger	Niamey	Libya	Kufra
26	Mali	Bamako	Libya	Sirte
27	Ghana	Accra	Libya	Ghadames
28	Ivory Coast	Abidjan	Libya	Benghazi
29	Burkina Faso	Agadouko	Libya	Sabah
30	Libya	Benghazi	Libya	Abraq

Source: Annual Report of Libyan and Afrqiah airways, 2010, p. 243.

## **Tripoli International Airport**

Tripoli International Airport (IATA: TIP, ICAO: HLLT) serves Tripoli, Libya. It is operated by the Civil Aviation and Meteorology Bureau of Libya and is the nation's largest airport. According to Vandewall, (2006, p. 345) it is “located in the town of Ben Ghashir 34 km south of the city centre, Tripoli International is a hub for Libyan Airlines. The airport is also a hub for Afriqiyah Airways and Buraq Air. With the closure of the National Terminal as part of the construction of the new Airport, all flights, International and Domestic, leave Tripoli International Airport from the main International Passenger Terminal. The terminal capacity is 3 million passengers a year. The airport handled 2.1 million passengers in 2007 and over 3 million passengers in 2008. Two new terminals will be built within the next several years which will bring the total capacity of the airport to 20 million - the first new terminal is due to open by March 2011”.

Vanewall (2006) also explains that “Libyan Airlines operates the most weekly departures from the airport at 98; it is followed by Afriqiyah Airways (83 flights), Buraq Air (42 flights), Egypt Air (14 flights), Alitalia (14 flights) and British Airways (14 flights). Transport to and from Tripoli city centre usually involves taking a taxi or shared taxi. Tour operators offer coaches to and from the airport, connecting it with numerous hotels in the city centre” (p. 346).

## **Airport Expansion (Tripoli’s New Airport)**

In September 2007, the Libyan government announced a project to upgrade and expand Tripoli International. The eventual total cost of the project, contracted to a joint venture between Brazil's Ode Brecht, TAF Construction of Turkey, Consolidated Contractors Company of Lebanon and Vinci Construction of France, is LD2.54 billion (\$2.1 billion). The project is to construct two new terminals at the airport (an East Terminal and a West Terminal) on either side of the existing International Terminal. Each new terminal will be 162,000 square-metres in size, and collectively they will have a capacity of 20 million passengers and a car park for 4,400 vehicles.

The French company Vinci designed the terminals, which are expected to serve 100 airplanes simultaneously. Work started in October 2007 on the first new terminal. The initial capacity will be 6 million passengers when the first module comes into operation. Preparation is also underway for the second new terminal, which will eventually bring the total capacity to 20 million passengers; the completed airport is expected to strengthen Libya's position as an African aviation hub. Although the government identified Tripoli airport as a 'fast track' project in 2007, leading to construction work starting before the design was fully developed, the project was not due to be finished until at least March 2011. The cost of the project was also been rising, leading to an intense round of renegotiations obviously this project has failed disruption due to the popular uprising of 2011, and estimates as to its completion date vary, but it is likely to be 2013 or 2014.

The airline industry was chosen as the focus for this study for a number of reasons, each of which affects the structure of the study to a certain extent. This is the first study to investigate the relationship between the three concepts of service recovery, justice and customer satisfaction, and to do this the Libyan airline industry is a good choice because:

1. It is central to Libya's strategic vision of itself as a future major tourism destination and a transit hub for the North Africa/Middle East region.
2. It is the most technologically advanced industry in Libya, and as such offers an environment of customer service comparable with studies conducted in more developed countries.
3. It deals with a wide range of customers from different sections of society in Libya, and with customers from all over the world who travel to Libya; as such it offers a wider variety of potential respondents than any other industry in Libya.
4. Background data on the Libyan airlines exists to a greater extent than for any other industry, and these data are more reliable and easier to obtain.

These points represent the national context within which the findings of this study must be considered; the national airline of Libya, like that of many other (especially developing) countries, represents for the country prestige, independence, control over economic activities such as tourism, and an opportunity for economic and technological advancement.

## Summary

This chapter has presented background material on the development of civil aviation in Libya, and the current situation facing the two airlines surveyed, Libyan Airlines and Afriqiyah Airlines. The key points from the chapter that contribute to an overall understanding of the thesis are:

Aviation represents an extremely important part of the Libyan state's future plans for economic development, in which it is expected to play a leading role in advancing Libya as a tourist destination; and in promoting Libya as a transit hub, dealing with passengers from all over the world wishing to transfer to flights around Africa and the Middle East. As such, attention has been given to recent investment in expanding the main international airport in Tripoli, and building appropriate infrastructure in the form of roads, hotels etc.

Alongside the state's ambitious plans for expansion of air travel within, and to and from Libya, there has been an attempt to reform Libya's economy to make it more open and competitive, and less dependent on state control. This has exposed the two Libyan airlines surveyed to competition from other regional carriers and to large international airlines. However, while the airlines have been well funded and this has allowed them to purchase the latest aircraft, efforts at opening up the airlines to competition have been hampered by the previous restrictive policies of the state, and the isolation caused by international sanctions. The Libyan airlines have therefore found that their development in terms of customer service, including service recovery, has been lagging behind their international competitors. The merger between Libyan Airlines and Afriqiyah Airlines that is currently underway will result in an organization with two well known (within Libya) brands, and a unified marketing and administrative structure. This provides the basis for initiatives on customer service staff training and improvements in associated areas such as IT that have the potential to make the combined airline more competitive internationally.

This study therefore seeks to investigate service recovery efforts and their effect on perceptions of justice within the context of a complex, fast moving and customer-focused service industry of enormous strategic importance to the country, within which Libyan airlines will face growing competition from established MNEs with vast experience and

expertise in customer service and service recovery. The study's methodology (described in the next chapter) therefore aims to establish links between the individual items of service recovery efforts and positive customer perceptions of justice, while also investigating which perceptions of the justice of the whole customer experience are most influential on creating customer satisfaction as an outcome. In this way it is hoped that this study can be a contribution to building a Libyan basis of knowledge in this area, enabling the airlines surveyed to become more profitable and strategically significant to the whole of Libya's economic development. It will also represent a contribution to the understanding of these complex interrelationships in developing countries more generally.

## Chapter 4 **Research design and methodology**

### **Introduction**

In the three preceding chapters, an introduction to the present study was provided (chapter one), and literature relating to the research topic was reviewed (chapter two). Chapter three gave an overview of Libyan aviation and the two airlines who are the subject of this study. This chapter identifies the key research philosophies, research approaches, research strategies, research methods and methodologies, issues relating to data collection and population and sampling procedures employed in the present study, which considers service recovery and its impact on customer satisfaction. This chapter starts with providing a review of the research philosophies employed by the researcher and indicates which philosophy has been adopted. Previous research approaches adopted by researchers are also reviewed, and reference to the approaches used in the present study will also be made. Research strategies employed to generate primary data are then reviewed and reasons justifying their use will be provided. A number of data collection methods are explained in the literature. These methods will also be reviewed and those adopted in the present study will be referred to. Sampling and procedures are reviewed and the approaches and procedures that have been employed within the present study will be highlighted and finally, a summary of the issues addressed in the present chapter will be provided.

### **Research Philosophy**

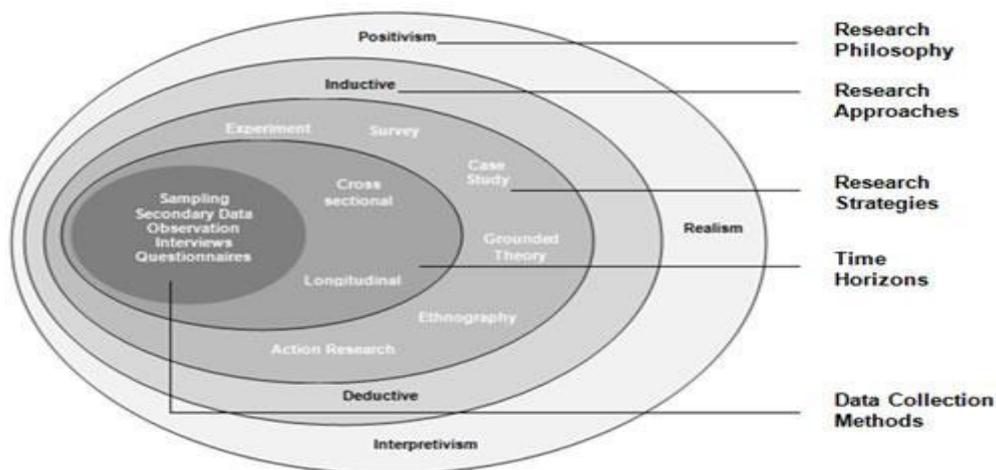
Saunders et al. (2007) argue that research philosophy relates to the development of knowledge as well as the nature of such knowledge; nonetheless, although this may possibly sound philosophical, it is distinctively what researchers do when starting their research, specifically, the development of knowledge in their own field. The literature discusses a number of key research philosophies, including, Realism, Positivism, Critical Theory and Constructivism. These four research philosophies are addressed below.

Saunders et al. (2007, p. 102) maintain that epistemology is about what is equivalent to acceptable knowledge in a field of study, and define it as: “*A branch of philosophy that studies the nature of knowledge and what constitutes acceptable knowledge in a field of*

*study.*” Blaikie (2010, p. 18) refers to epistemology as a “*theory of knowledge, a theory of science of the methods or grounds of knowledge. It is a theory of how human beings come to have knowledge of the world around them (however this is regarded), of how we know what we know.*” It is argued that in the epistemological approach to the development of knowledge and theories, theories are developed on the basis of obtaining knowledge of the world (Gilbert, 1993 cited in Crowther & Lancaster, 2008). Gilbert, (1993) indicates that this approach categorises knowledge in the form of theories, and that much of the research and theory building in the social sciences employs the epistemological approach of building knowledge. He indicates that the literature (for example, Feyerabend, 2004; Crowther and Lancaster, 2008) suggests that there are several criticisms of the limitation of the epistemological approach to the development of knowledge. Nonetheless, as Easterby-Smith et al. (2002) indicate, this approach to building theories and knowledge can and does bring about a number of approaches and methodologies to the creation of this knowledge. Easterby-Smith et al. (2002) argue that having an epistemological perception is significant; for example, it can facilitate explaining issues relating to research design, which connotes more than one way of designing research instruments; and knowledge of research philosophy enables the researcher to identify research designs that will work and those that will not. Blaikie (2010) identifies six epistemological assumptions, namely, empiricism, rationalism, falsification, neo-realism, constructionist, and conventionalism. Ontology, on the other hand, is concerned with the nature of reality, and this, according to Saunders et al. (2007, p. 108), it does to a better degree than epistemological considerations, “*raise (d) questions of assumptions researchers have about the way the world operates and the commitment held to particular views.*” Ontology, according to Blaikie (2010, p. 13) “*is a branch of philosophy that is concerned with the nature of what exists.*” An ontological approach to developing theories is founded on thoughts concerning the nature of phenomena (Gilbert, 1993). Saunders et al. (2007, p. 605) define ontology as a “*theory concerning the nature of social phenomena as entities that are to be admitted to a knowledge system.*” Adriaanse, (2009) maintain that ontology raises questions that researchers have in relation to the way the world operates and the commitment held to particular notions.

Blaikie (2010) identifies six ontological assumptions, that is, shallow realist, conceptual realist, cautious realist, depth realist, idealists, subtle realist. Epistemological and ontological approaches differ from each other. In particular, they represent an empirical versus a conceptual approach to theory building and research and per se are in fact different

approaches (Crowther & Lancaster, 2008). Beuker et al. (2005, p. 47) argue that while epistemology “*is about reasoning, argument and evidence,*” ontology “*is concerned with modelling and explaining the world.*” Epistemology is argued to characterise an empirical approach to theory building and research, whereas ontology is said to be a conceptual approach to theory building and research; hence, research *per se* characterises different directions (Lancaster, 2005; Crowther & Lancaster, 2008). Lancaster (2005) and Crowther & Lancaster (2008) also indicate that theories in epistemology are developed on the basis of gaining knowledge of the world, and in ontology, theories are based on suggestions concerning the ‘nature of phenomena’.



**Figure 4-1: Research process onion (Source: Saunders, 2003)**

## **Realism**

This is a valuable worldview for some social scientists (Sobh & Perry, 2006) and is a “growing movement transforming the intellectual scene in management research. Its philosophical position is that reality exists independently of the researcher’s mind; that is, there is an external reality” (Harre & Maden, 1975; Bhaskar, 1978 cited in Sobh & Perry, 2006, p. 124). This external reality consists of abstract things that are made in the minds of people, but exist independently of any person; it “*is largely autonomous, though created by us*” (Magee, 1985, p. 61). A person’s perceptions are a view of this hazy, external reality.

Realists see external reality as being made of structures that are built from interrelated objects, and of mechanisms of interaction (Sobh & Perry, 2006). In other words, the observer's viewpoint must be considered at all times when they are describing any part of the world. Therefore, the purpose of this research is to gain insight and describe complexity. The realist's imperfect view of an external reality infers the a search for just one negative result to disprove a theory may not be as appropriate in the social sciences as it is in the physical sciences - or indeed as straightforward as Yin (1994) suggests (cited in Sobh & Perry, 2006). Rather than seeking single instances, realism should ask consistently why a result has been found, because the observed findings are merely an "*outcropping*" of an innate, undetected and unobservable reality (Newman, 1994) or the "*tip of an iceberg*" (Gummesson, 2000).

Moreover, quantitative survey results do not provide a deep understanding, but are appropriate for an exploratory study that seeks to gather basic data upon which future research can build. Realist researchers enter the field with prior theories (Sobh & Perry, 2006). As external reality is likely to have been studied before, other may have described, experienced or researched that same external reality. The outcomes of that prior research provide many "*windows*" onto that reality and so require consideration before realist data collection starts anew (Perry et al., 1999). The realist shows the scientific truth of study. The independent nature of realism helps the researcher in finding and making his/her own ways on the research path. Direct realism is used to collect information from senses and critical realism is used to evaluate the information gathered through direct realism.

Therefore realism is seen as being neither 'value-laden nor value-free'. It can however be suggested that it is better described '**value-aware**' (Healy & Perry, 2000). This frames the notion that there is acceptance that there is a real world to discern, even if this can only imperfectly and probabilistically perceived by researchers. Thus, as constructivism and critical theory would suggest, a participant's perception is not indeed "*reality*". Rather, their perceptions (for realism) are 'windows' onto reality. By drawing together such perspectives a 'picture of the reality' can be triangulated, hence realism is based on a multiplicity of precepts about a single reality.

## Positivism

Positivism assumes that natural and social sciences measure independent facts about a single apprehensible reality composed of discrete elements whose nature can be known and categorised (Tsoukas 1989; Guba & Lincoln 1994). The measurement and analysis of causal relationships between variables, which are themselves consistent across time and context, often form part of the research inquiry objectives. The perspective assumes natural laws and mechanisms exist, with theory-testing or deduction being the primary mode of the research inquiry and the primary data collection techniques including controlled experiments and sample surveys.

Data is usually collected in a structured manner with the researcher not intervening in the phenomenon of interest, and seeking for theory testing in value-free or hopefully value-free generalisations. Therefore, the position is that the data and its analysis are value-free and data do not change because they are observed. Hence it is argued that researchers see themselves, as viewing the world through a ‘one way mirror’ (Guba & Lincoln, 1994). Such assumptions may be seen as appropriate in a natural science. However, when approaching a social science phenomenon involving people and their lived experiences a positivist view is inappropriate (Newman, 1997; Healy & Perry, 2000; Robson, 2002). This position rests on the notion that positivists see themselves as being separate from the world they study, while investigators within the other paradigms recognize that they are themselves participating in real-world life to some extent in order to better understand it (Denzin & Lincoln 1994; Gilmore & Carson 1996). Thus, a positivist approach is appropriate to the current study, which aims to explore the subject of service recovery through a survey that aims to collect quantitative data and compare it against the few previous empirical studies in the field of real-world service recovery efforts. This leaves the way open for social science researchers to seek to provide causal explanations within a closed system as a positivist would. They should consider the complex nature of reality and the research problem, reflecting, forming and revising meanings and structures from managerial experiences and how these problems appear to managers (Denzin & Lincoln, 1994).

Positivism is founded on concepts of impartiality and objectivity and assumptions that the researcher can stay detached, and not affect, the research field (Edwards & Skinner, 1992). These authors argue that a positivist point of view portrays the “*social world as existing*

*independent from human consciousness and therefore data are not affected by the participants' or the researcher's interpretation (p. 23)".* Denzin and Lincoln (1994) maintain that internal and external validity is addressed with results being submitted in the form of a scientific report. Positivism is a research paradigm that is applied in the present study given the fact that the study is quantitative in nature, using questionnaires. Data generated in research adopting a positivist approach is usually of a quantitative nature (Bell, 2005). The following table compares a positivist approach with the more relativistic philosophy of a phenomenological or constructivist approach.

**Table 4-1 : Table comparing the conflicting views of the traditionally extreme schools of thought**

<b>Facets</b>	<b>Positivist</b>	<b>Phenomenological</b>
Basic ontological assumption	Viewing the world objectively	Subjectivity
The nature of the world	'Out there', external	Internal
Theoretical aim	To test theory	To build theory
The role of researcher(s)	Being independent of the phenomenon, to observe and measure it	Being interactional with the subjects, to discover and 'reveal' the problem
Research purposes	To describe a phenomenon To offer explanation to the interpretation of an event phenomenon To predict/generalise from certain patterns or behaviour to the whole population under	To understand people's interpretation of an event To discover meaning of the event To construct theories from interpretation and understanding
Methodology	Observation and measurement, usually establish hypotheses to test or refute a theory	Understand and discover, to construct theory from the reality
Desired research methods	Quantitative oriented, e.g. Survey, questionnaire	Qualitative oriented, e.g. Ground theory, interviews
Data source	Probability and non-probability sampling	Incline to be purposive selected excluded probability
Data features	Numerical and standardised "format" Substantial in quantifying of individual cases	Rich text, not standardised quantity in terms of "format" Rich and complex, hard to reach full comprehension
Data analysis techniques	Often apply statistical analysis techniques, computer software available, such as SPSS and SEM	Usually include coding, drawing out key theme, outline concepts, recent computer software available, NVIVO
Data quality evaluation	Important to examine internal validity, reliability, construct validity and external validity	Essential to assure truth or credibility, nature or conformability, consistency or dependability

(Source: Adapted from the work of Creswell, 2003; Proctor, 2003; Saunders et al., 2003; Healy & Perry, 2000; Tashakkori & Teddlie, 1998).

## **Exploratory Research**

In research, three types of approach are often identified – exploratory, descriptive and explanatory. This work, which is exploratory in nature due to being the first of its kind to investigate service recovery efforts in any Libyan industry, nevertheless adopts a positivist position and uses a deductive approach that is focused on generating quantitative data to test theory: to this extent it can also be described as explanatory. Explanatory research tries to explain “*patterns in observed social phenomena, attitudes, behaviour, social relationships, social processes or social structures*” (Bulmer, 1986 cited in Blaikie, 2010, p. 71). Kline (2005) argues that explanatory research (also referred to as analytical research) is occupied with explaining why a phenomenon occurs and measuring causal relationship among variables. Explanatory research is also said to be an enlargement of descriptive research and progresses further than merely unfolding characteristics to evaluate and explain why (or how) something takes place. The essence is to investigate a situation or a problem in an effort to explain the relationship between variables (Saunders et al., 2007).

Before describing the approaches adopted in the current research it is useful at this point to recapitulate the research questions and objectives:

### **Research Questions**

- 1-What are the effects of attempts at service recovery on customers’ perceptions of justice and overall satisfaction within two Libyan airlines?
- 2-What are the implications of service recovery efforts for the Libyan airlines and for service businesses more generally?

### **Research Objectives**

- 1- To evaluate the perceptions of customers of the efforts of Libyan airlines to achieve the recovery of service failures.
- 2- To study the effect of efforts aimed at service recovery by the Libyan airlines in relation to their impact on customer perceptions of justice, and subsequently satisfaction.
- 3- To provide possible implications of service recovery efforts for the Libyan airlines and for service businesses more generally.

Libyan Arab Airlines and Afriqiyah Airways are the two largest operators of commercial aviation services in Libya. Both operate to a wide range of domestic and international destinations, and although they compete for passengers on many of the routes they operate, they are both state-owned and directed. The complex and expensive nature of the services provided by these companies makes them suitable for research of the kind conducted by this study, and their importance to the economy as a whole and in particular to Libya's ambition to be an African transit hub for passenger and goods freight by both sea and air make these companies important research subjects.

## **Research Approaches**

Approaches to research can be divided in two types: deductive and inductive. Deductive research is associated with hypothesis testing, in that it begins by reviewing an existing theory that can be tested to conclude either modification or support to the existing theory, by measuring the variables variation through the kind of counting and numbers that allow for clear observation by which a confirmation of the theory can be drawn. On the other hand inductive research seeks to generate new theory out of the observation of specific data, from which generalisations can be drawn that contribute to the formation of that theory (David & Sutton, 2004).

According to Gray (2009) inductive and deductive approaches are not mutually exclusive; they can be combined by starting with a selection of facts to generate a theory, which is an inductive approach that then becomes deductive after testing the theory.

Starting from specific theory to broader generalizations or confirming the theory, this research is built on a deductive approach that is the theory that "represents the commonest view of the nature of the relationship between the theory and social research" (Bryman, 2004, p. 66). Selecting the deductive approach in this research goes back to the association between deductive approaches with quantitative research as they are usually coupled together, whereas qualitative research is normally associated with an inductive approach (Bryman, 2004; David & Sutton, 2004).

Also, since this research adopts a quantitative approach, which is usually deductive and theory-driven and by which means the study's objectives can be met: firstly, to confirm the

theory; secondly, to generalize the findings in a broader sense. On other hand, qualitative approaches often are inductive and triggered by an observation of a particular phenomenon from which theories can be built around that studied phenomena (Gelo et al., 2008). Hence, the inductive approach is not used in this research as the researcher is detached from the research. However the researcher might help inductive researcher's in the future in building theory for new findings. The deductive approach intended for this research was based on a theory from which the conceptual framework was derived in order that it could be tested in the field to answer the research question.

Based on the above, the researcher intends to adopt a quantitative research approach using the steps of a deductive method to achieve the research objectives (Bryman & Bell, 2003). The deductive steps illustrated below show the sequence of the deductive method, starting from the theory through to reaching the findings, in which confirming or rejecting the initial conceptual framework entails either supporting the initial theory proposition, or proposing its revision on the basis of the empirical results.

A subjectivist and objectivist perspective adopt diametrically opposed positions, and there are therefore major consequences with regard to approaches that arise from each perspective. To an objectivist, their interest, studies, values, beliefs, etc. are perceived to have no influence on their choice of study subject or the methods by which they study. They argue that objectively is possible in the research and methodological choices that they make, that is, that the researcher is able to disregard their own set of interests, values, skills, etc. and distance themselves from the research process to the point of absencing their personal opinions or prejudices. Subjectivists by contrast argue that the researcher's values, interests etc. necessarily influence the research process and that this influence must be acknowledged and included in the research assessment.

Deductive research is said to develop theories or hypotheses and then tests out such theories or hypotheses by means of empirical observation (Crowther & Lancaster, 2008). Crowther and Lancaster (2008) maintain that it is fundamentally an array of techniques for applying theories in the actual world so as to test and evaluate their validity. A deductive approach is defined as a: "*research process based on deductive logic, in which the researcher begins with a theory, then derives hypotheses, and ultimately collects observations to test the hypotheses*" (Rubin & Babbie, 2010, p. 40).

Gill and Johnson (2010, p. 46) refer to deduction as that which “*entails the development of a conceptual and theoretical structure prior to its testing through empirical observation of the facts ‘out there’ in the world through data collection.*” Basically, the process of deductive research involves developing a theory that is then subjected to thorough examination (Crowther & Lanvaster, 2008; Saunders et al., 2007). The deductive approach has also been defined by other authors.

For example, Gratton and Jones (2004, p. 26) define deductive research as “more generally associated with positivist and quantitative research,” adding that it involves the development of an idea, or hypothesis, through which existing theory can be subsequently tested by means of collecting evidence. “Deduction is: a reasoning process that begins with a self-evident principle and draws from it a conclusion relating to a particular case. In other words, a research process that starts with a theory, hypothesis or concept, usually drawn from the scholarly literature and proceeds to test its applicability or otherwise in a specific context could be labelled deductive” (Taylor, Sinha & Ghoshal, 2006, p. 4). In view of that, deduction is of key importance in the natural sciences in which laws present the foundations of rationalisation, help anticipate phenomena, and predict their incidence, hence, allowing them to be controlled (Collis and Hussey, 2003; Saunders et al., 2007). The deductive approach is said to move towards hypothesis testing, then the theory is substantiated, rejected or modified (Gray, 2009).

Robson (2002) has added a further step to this process, stating that deduction allows for the modification of theory in the light of the findings, and thus indicating that the deductive approach proceeds through five sequential stages: developing a hypothesis or hypotheses; expressing such hypotheses in operational terms; demonstrating how they will be quantified; testing the hypothesis, for example, via an experiment, a survey or some other type of empirical inquiry; examining the particular product of the investigation, that is, accepting the hypotheses or rejecting them; and if required, the theory is modified in view of the findings.

Gratton and Jones (2004) indicate that deductive research develops through the following stages: A statement with reference to the theory used to draw attention to the research; a statement deduced from that would indicate, in the event is that the theory is true, the relationship between two or more variables – research hypothesis; collection of data to test a

research hypothesis; therefore the findings are used to confirm, change or reject the theory initially employed to develop the hypothesis. To a large extent, Gratton and Jones's (2004) process of deductive logic is very similar to that of Gill and Johnson's (2010). A deductive approach is often quantitative in nature; numerical data are collected, and the findings that emerge from the data allow the researcher to either confirm or reject whatever theory was advanced prior to data collection. The present study, which is essentially exploratory and empirical in nature, with a quantitative method based on a questionnaire, therefore employs a deductive approach, which was considered most appropriate.

## **Inductive Approach**

An inductive approach principally reverses the process of the deductive research, in which researchers develop their hypotheses and theories with the intention of explaining empirical observations of the existent world (Crowther & Lancaster, 2008). Such empirical observations can be established through number of factors, such as, simply being founded on personal experiences, or, alternatively, theories can be developed to explain observed data (Crowther & Lancaster, 2008), for example, in the case of the present study theories might be developed based on the observed patterns of customers of the Libyan airlines. It is claimed that owing to this approach, plans are formulated to obtain data, then such data are analysed to observe whether any patterns come to light that entail associations between the variables (Gray, 2009). Gray also indicates that from questionnaire observations it may well be possible to make generalisations, relationships and even theories. An inductive approach is more often associated with interpretive, qualitative studies; therefore, *“the pattern is to collect data, and analyse that data to develop a theory, model or explanation”* (Gratton & Jones, 2004, p. 27). Rubin and Babbie (2010, p. 39) define inductive methods as a *“research process based on inductive logic, in which the researcher begins with observations, seeks patterns in those observations, and generates tentative conclusions from those patterns.”*

Cother and Lancaster (2008) maintain that an inductive approach does not necessitate the founding of a priori theories and hypotheses, in contrast, researchers can build their own theories founded on their observation, hence, allowing a problem or an issue to be investigated or approached in a number of possibly different methods with alternative explorations of what is happening.

This type of research approach is especially suited to investigate human behaviour, because it facilitates more flexibility in research design including such aspects as sample size and type of data (Crowther & Lancaster, 2008). Like any other research approach or method, this approach has its own advantages as well as its own disadvantages. According to Crowther and Lancaster (2008), its greatest strength is its flexibility, while Anderson (2006) sums up the advantages and disadvantages of this approach, as listed below:

#### 1. Advantages:

- It helps to make a cause-effect link between particular variables and the way in which humans interpret these variables in their social world
- It is flexible in that it helps to identify alternative theories on the research topic and permits the researcher to change the emphasis of the research as it progresses
- It helps explain why a particular phenomenon is taking place
- It acknowledges that the researcher is a part of the research process
- It allows research of topics that may have very little existing literature to support them
- It uses empirical evidence as the beginning of the reasoning process and can be easily applied.

#### 2. Disadvantages

- It is more effective with a small sample, so there is a limit to the sample size
- It is generally more time consuming, because a much longer period of data collection and analysis is required to generate the necessary ideas
- The risk of the research yielding no useful data patterns and theories is higher than with deductive research

To recap, this approach to research starts from description or observation and later on moves towards explanation; hence, it basically deals with observations which can result in developing a hypothesis or theories so as to explain such specific observations (Crowther & Lancaster, 2008). Such an approach was not deemed appropriate for this study, due to the paucity of research into service recovery efforts in the developing world, and in Libya in particular, and this research seeks to consider the existing model of service recovery efforts

effects on perceptions of justice and ultimately on customer satisfaction, to see how far the findings for customers of the Libyan airline industry confirm or contrast with this model.

## **Research Process**

The kind of data processing should be considered in the research process. It is mainly the distinction between **quantitative** and **qualitative** data used in research. Basically quantitative research includes measurement and qualitative data are associated with such concepts as opinions and emotions and are characterised by their richness and fullness based on opportunity to explore the subject (Robson, 2002).

The choice of using quantitative or qualitative data in research depends on the validity, reliability and objectives of the research. Quantitative data is derived from numerical, statistical and standardised data while qualitative data concludes in non-standardised data requiring classification and conceptualisation (Saunders, Lewis & Thornhill, 2007, p. 95). This study is confined to the collection of quantitative data, in order to establish a data benchmark for service recovery efforts in Libya upon which future researchers can build their own research frameworks, which may be more inductive or qualitative in nature

## **Quantitative Approach**

A quantitative research approach is said to use numbers and statistical methods. Some authors claim that quantitative research is inclined to be founded on numerical measurements of particular aspects of phenomena, which are abstracted from specific situations to obtain general descriptions or to test causal hypotheses, and to obtain measurements and analyses that are straightforwardly replicable by other researchers (Thomas, 2003). Other authors claim that quantitative researchers look for explanations and predictions from which it will be possible to generalise to other people and places. Based on these views of quantitative research, Thomas (2003) concludes that researchers are not of the same opinion in defining quantitative methods. A quantitative approach is defined as: *“The approach in which the investigator primarily uses post positivist claims for developing knowledge (i.e., cause and effect thinking, reduction to specific variables and hypotheses and questions, use of measurement and observation, and the test of theories), employs strategies of inquiry such as*

*experiments and surveys, and collects data on predetermined instruments that yield statistical data” (Creswell, 2003, p. 18).*

As regards the types of quantitative design, investigators select from three types: exploratory, descriptive, or causal. Exploratory and descriptive approaches are explained later in this chapter. Causal designs by and large involve planning and carrying out experiments (McNabb, 2004).

In regard to the current study, the researcher’s choice of research methodology must take into account the nature of the research problem. Hatch (2002) shows that different methods are relevant depending on whether research is theory building or theory testing. With theory testing the emphasis is on measurement, whereas theory building emphasises meaning. These positions are not mutually exclusive, as using a combination of research methods can allow both theory building and testing to occur within a single research project. According to Struwig et al. (2001, p. 134), the questionnaire survey is one of the most appropriate data collection methods in the social sciences and is often used to implement a quantitative approach. Questionnaires, as a data collection method have advantages and limitations, which must be considered. The advantages are listed below:

- They produce quick results.
- Questionnaires involve lower costs than other methods, as they can be distributed by hand, sent through the post or emailed.
- They offer greater assurance of anonymity.
- Questionnaires can be accomplished at the respondent’s convenience.
- They afford an occasion to correct misinterpretations or give explanations and clarify questions.
- They are not influenced by problems of “*no-contact*”.
- Questionnaires use enables wider coverage, as researchers can approach respondents more easily than through other methods.

- The researcher has control over question order, and can check on incomplete responses or questionnaires and if respondents attempt to pass on of questionnaires to others.
- There is also the opportunity to collect ratings or assessments based on observation.
- Respondents who are widely dispersed geographically can be reached.
- Conversely, there are also some limitations of the questionnaire, which have been well discussed in the literature. Struwig et al. (2001, p. 138) identified a number of disadvantages of the questionnaire, as follow:
  - Is not possible to check whether the question order was followed.
  - Questionnaires do not provide an opportunity to collect additional information.
  - Due to lack of supervision, partial response is quite possible.
  - Questionnaires do require respondents to have the ability to read, handle complex documents or long questionnaires.
  - Completeness of the questionnaires is not guaranteed.

## **Research Strategies**

Taylor et al. (2006) maintain that there are four types of research strategy, namely: case studies, surveys, action research, and experimental strategies. Surveys are described as being attractive, given that they spread the research extensively and allows variations, being conducted among persons or among organizations; hence, they offer the likelihood of allowing the researcher to make generalizations (Taylor et al., 2006). The current study attempts to investigate the levels of customer satisfaction with service recovery efforts provided by the Libyan airlines investigated. The survey strategy which was used in this research employed a questionnaire. The data collected through this survey method are not as wide ranging as those collected by other strategies, for reasons connected with the need for simplicity in the design of the questionnaire to make it accessible to the research sample, and to provide an amount of data that enables valid findings to be drawn with regard to comparison with existing theory, without introducing a set of variables that would require the generation of new theory.

## **Time Horizons**

The time horizon of this study required a cross-sectional study, due to time constraints which means that the research had to be completed in a narrow time frame. The questionnaire was conducted over a relatively short period of time, beginning in January 2010, and had to be completed by the end of March 2010. However, in spite of the time and effort devoted to this research the analysis of the raw data was not completed before January 2011. A lot of time was spent to design a strategy and formulate ways and means of conducting research, the design and construction of the questionnaire and analysis of the results; even with the help of an appropriate computer package was time-consuming. Fink (2002) observes that across the sectors of research, it may take a long time to complete work (from weeks to months), depending on the research and the sample size.

## **Data Collection Methods**

One of the most common data collection methods that can be used in survey research is self-administered surveys (Cooper & Schindler, 2003). Self-administered surveys, also called self-administered questionnaires, can be classified according to various methods of delivery and collection (Floyd & Fowler, 2002): however the questionnaire used in this study was delivered and collected by hand. The advantage of this method is that it affords the researcher the ability to cover a contained geographical area without a substantial increase in costs. In addition, complex and long questions can be asked and respondents have time to think about them, hence, more accurate answers can be given. Furthermore, it is easy to reach respondents who cannot be accessed by other survey methods. However, in such a survey it is difficult to select who answers questions. In addition, the interviewer is not always present to explain and clarify the questions, so certain questions may be left unanswered. Moreover, a self-administered survey has a low response rate compared with other survey methods; this is because researchers can only rely on an introductory letter and written instructions to motivate respondents to reply (Cooper & Schindler, 2003). The most appropriate data collection method for the current study was a self-administered questionnaire delivered and collected by hand. This was for several reasons:

- 1-The limitation of time and money available for the current study.

2-The delivered and collected questionnaire method increases the response rate by approximately 20% compared to postal distribution (Saunders et al., 2009) and the speed of the data collection process is faster

## **Questionnaire Design**

When designing the research instrument, the main concern was to produce a short and simple questionnaire. Draft questionnaires were prepared and tested using advice and criticism from a small group of experts, so that maximum accuracy could be ensured. Before commencing the fieldwork, a meeting was held with experts in questionnaire design from the Business School of the University of Gloucestershire, and on their advice, some modifications were made concerning the design of the questions.

The first draft of the questionnaires was designed and tested on ten respondents unconnected with the selected sample. After testing the questionnaire, some questions were identified as ambiguous, and these were rephrased and redesigned, or, in exceptional cases, were dropped. To save respondents time in completing the questionnaires, as well as achieving uniformity among respondents' answers, closed or fixed-alternative forms of questions were adopted in this study. According to Oppenheim (1966) closed form questions require no writing from the respondent. Quantification is straightforward and questionnaires based on this kind of data collection are easier and quicker to answer, so more questions can be asked within a limited time. In most cases questions were formed on a five points Likert scale. This was because using the Likert scale allowed answers that are not achievable using a yes/no or tabular question format. Special care was taken in wording the questionnaire. Questions were originally written in English and then translated into Arabic by an expert.

The individual items of the questionnaire were derived from a range of previous studies, as shown in table 4.2 below. All the previous studies dealt with issues of service recovery and customer perceptions of justice; some of them included satisfaction as an outcome. All the studies drawn upon were into service industry areas other than airlines (for example, the study of Yang and Pang, 2007 was in to automobile servicing), and this meant that items had to be reworded to make them appropriate. All items were located in the same dimensions of justice as in the original from which they were derived. Questions 18, 22, 38, 51, 52, 53 were

added by the researcher in consultation with his tutors to make the questionnaire more relevant to airline passengers and to ensure there was a balance in the number of items in each dimension of justice.

**Table 4-2: The source of questionnaire**

Questionnaire item	Original Questionnaire	source	Issue addressed
11-The airline offered a good discount as part of the solution to my service problem.	This company offered a good repair service.	Yang and Peng, (2007)	Service recovery compensation
12-The airline offered a good solution to my service problem.	The company offered a good component changing service.	Yang and Peng, (2007)	
13-The solution offered by the airline was acceptable to me.	The component changing service offered by the company is worthy for me.	Yang and Peng, (2007)	
14-The airline offered a good service fix.	The repair service offered by the company is worthy for me.	Yang and Peng, (2007)	
15-The airline solved my problem and completed the recovery plan as soon as I reported the problem.	The company supplied me with a relative and complete recovery plan as soon as I reported back the problems.	Yang and Peng, (2007)	Service recovery speed
16-The airline completed the recovery plan quickly.	The company completed the recovery plans soon, shortening the time I spent.	Yang and Peng, (2007)	
17- My problem was solved in one go and I did not need to ask for further help.	The company completed the recovery plan at one time, reducing the frequency of my returning back for repairs.	Yang and Peng, (2007)	
18-I was not kept waiting unnecessarily and a solution was found quickly	N/A	Added by researcher	
19-The airline said they were sorry for any inconvenience immediately.	The company gave an oral apology to me.	Yang and Peng, (2007)	Service recovery Apology
20-The airline wrote an appropriate apology letter to me quickly.	The company wrote an apology letter to me.	Yang and Peng, (2007)	
21-The airline gave some appropriate compensation as an apology.	The company gave some presents as an apology to me.	Yang and Peng, (2007)	

22-The airline gave me additional benefits as to kens of apology during the flight.	A/N	Added by researcher	
23- It took me too long to get airline employees to resolve my problem.	The length of time taken to solving my problem was longer than necessary.	Smith, Bolton and Wagner,(1999)	Distributive Justice
24- The way my problem was resolved reflected the price I paid for the flight.	The price I paid was fair.	Kriengsin Prasongsukarn, (2005)	
25- In resolving the problem the airline gave me what I needed.	In resolving the problem, the company gave me what I needed.	Smith, Bolton and Wagner,(1999)	
26- To get my problem solved involved a lot of effort from me.	The outcome I received was fair.	Smith, Bolton and Wagner,(1999)	
27-I was happy with the outcome.	I outcome I received was right.	Smith, Bolton and Wagner,(1999)	
28-The airline procedures were fair.	The procedures were fair.	Denver Severt, (2002)	Procedural Justice
29- The airline procedures were sensible.	The company's procedures were sensible.	Denver Severt, (2002)	
30-The airline procedures were clear.	The company's procedures were clear.	Denver Severt, (2002)	
31-The airline procedures were streamlined.	The company's procedures were streamlined.	Denver Severt, (2002)	
32-The airline procedures did what I expected.	The company's personnel were authorized to do what I expected.	Denver Severt, (2002)	
33-The procedures put the customer first.	The procedures put the customer first.	Denver Severt, (2002)	
34-The procedures made me feel important.	The procedures made me feel important.	Denver Severt, (2002)	
35-The procedures made me angry.	The procedures made me angry.	Denver Severt, (2002)	
36-Employees were always willing to help you.	The employees were appropriately concerned about my problem.	Kriengsin Prasongsukarn, (2005)	Overall responsiveness (Interactional Justice)
37-Employees were never too busy to respond to your request or complaint.	The employees put the proper effort into resolving my problem.	Kriengsin Prasongsukarn, (2005)	
38. The behaviour of employees gave you confidence.	A/N	Added by researcher	
39-Employees had the knowledge to answer your questions.	The employees gave me the courtesy I was due.	Smith, Bolton and Wagner,(1999)	
40- The employees gave you individual attention.	In resolving the problem, the hotel/resort gave me what I needed.	Kriengsin Prasongsukarn, (2005)	
41-The employees put the proper effort into resolving my problem	The employees did not put proper effort into resolving my problem.	Kriengsin Prasongsukarn, (2005)	

42-The employees' communications with me were appropriate.	The employees' communications with me were appropriate.	Smith, Bolton and Wagner,(1999)	
43-The employees gave me the courtesy I was due.	The employees did not give me the courtesy I was due.	Kriengsin Prasongsukarn, (2005)	
46- The airline online booking was easy. (if used)	In general, the products/services of the company meet my expectations.	Yang and Peng, (2007)	Customer satisfaction
47- Waiting time for check-in was unacceptable.	In general, I am satisfied with the services or products that the company provides.	Yang and Peng, (2007)	
48- The airline flight boarding was efficient.	My choice to purchase from the company was a wise one.	Yang and Peng, (2007)	
49-The flight departed and arrived at the promised times.	I am happy with my decision to purchase from company.	Yang and Peng, (2007)	
50- The airline provided good food and beverages.	I will purchase products/services with this company in the future.	Anderson and Srinivasan,(2003)	
51- Special meals are available. (If needed).	A/N	Added by researcher	
52-The plane was comfortable.	A/N	Added by researcher	
53-The plane was clean.	A/N	Added by researcher	
54- The airline left a negative impression.	Say positive things about the service of this hotel	Kriengsin Prasongsukarn, (2005)	
55-I would not recommend this airline to my family and friends.	I will recommend this company to someone who seeks my advice.	Anderson and Srinivasan,(2003)	
56-Next time I fly, I will change to another airline company.	I seldom consider switching to another company.	Anderson and Srinivasan,(2003)	
57-The service I received was good.	Overall, I felt the service was good.	Denver Severt, (2002)	

In Libya the researcher was already provided with contacts within the airline industry who acted as advisers to this study. Although the questionnaire was distributed by the researcher in person, special efforts were made to achieve a high rate of response. This included: **(1)** making the questionnaires simple, understandable and short; **(2)** having a covering letter accompanying the questionnaires explaining the importance of the study and assuring the participants that all the responses of the questions would be confidential and anonymous.

The model of questions used in this research is described below:

- 1- Evaluation of Service recovery compensation.
- 2- Evaluation of Service recovery speed.

- 3- Evaluation of Service recovery apology.
- 4- Evaluation of Distributive Justice.
- 5- Evaluation of Procedural Justice.
- 6- Evaluation of overall responsiveness (Interactional Justice).
- 7- Evaluation of overall responsiveness in general, (e. g I believe that my complaint was treated fairly).
- 8- Evaluation of overall satisfaction (e. g I was satisfied with my flight/travel experience).

### **Path Diagram of the Questionnaire Model**

This model illustrates the makeup of the study's questionnaire design, offering a visual representation of the how the study investigates the elements of its principle concern, which are service recovery, justice and satisfaction. The oval cells correspond to individual questions, and the model shows how they are combined into groups, and how the groups relate to each other and combine together to determine the relationship between service recovery initiatives and perceptions of justice. The model (see figure 4.2) mirrors the movement of a customer's perception of a service recovery effort from recovery to an estimation of justice, and thence to satisfaction, that is found in the study's theoretical model given at the end of chapter two (see figure 2.4). The model illustrates how the service recovery elements of compensation, speed and apology are expected to influence each other, and each of the dimensions of justice. In addition to providing a visual representation of the research instrument (questionnaire), the model conceptualises the progression of the airline company inputs on the left into customer perceptions of justice in the middle of the diagram, with an output of satisfaction on the right. What are important to the study is the relationships it can uncover between inputs and perceptions (service recovery and justice) and what these reveal about the airline industry in Libya.

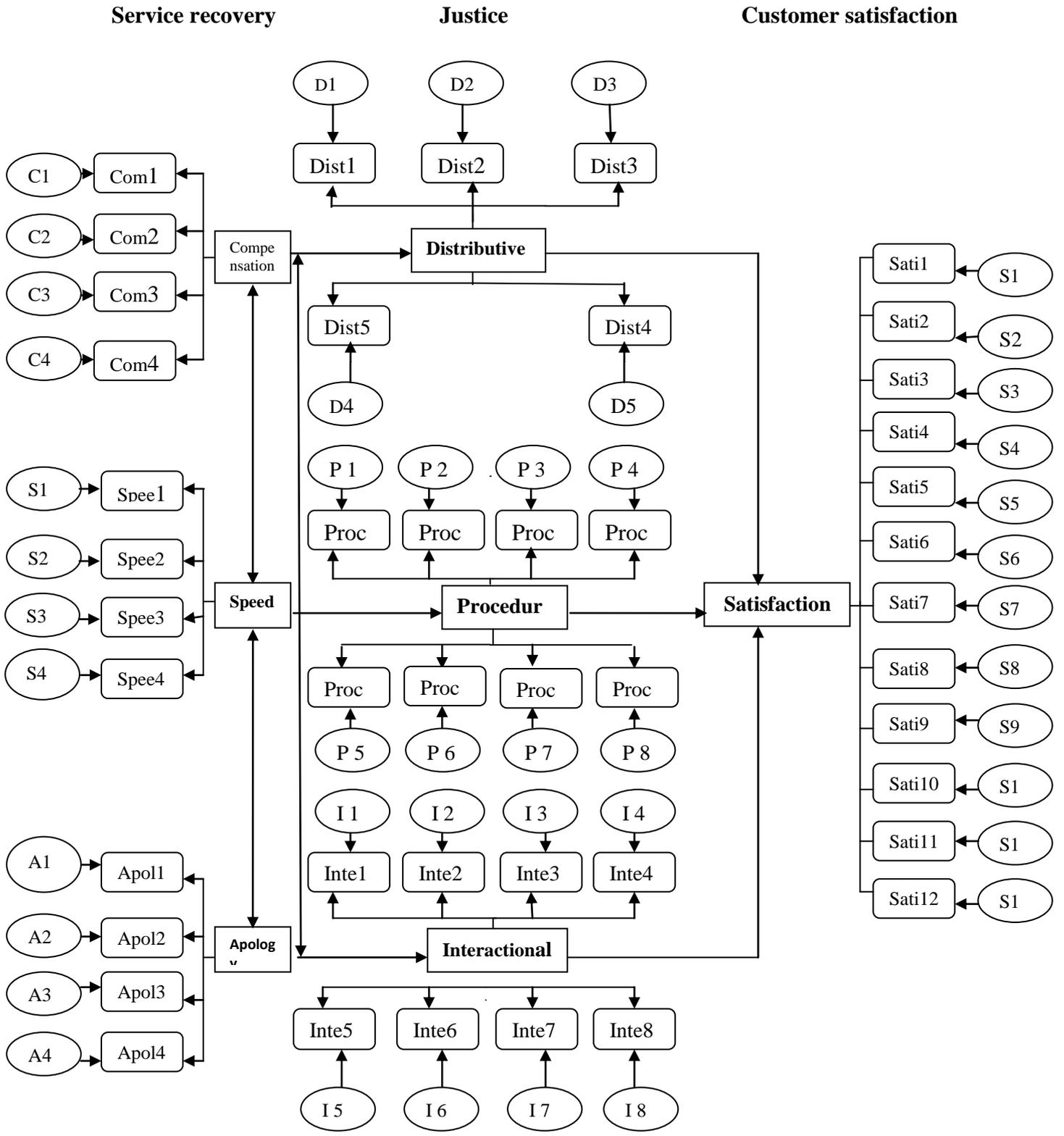


Figure 4-2: Path diagram of the questionnaire model

## Sampling Methods

The population of the current study was the customers of two Libyan owned airlines: Libyan Airlines and Afriquiah Airlines. Obviously this is too large a population to survey entirely; therefore it was necessary to take a sample. The key concept of sampling rest on the assertion that selecting elements from a population will help researchers draw conclusions concerning the entire population. An element of a population is *“the subject on which the measurement is being taken. It is the unit of study,”* and a population *“the total collection of elements about which we wish to make some inferences”* (Cooper & Schindler, 2001, p. 163).

Anderson (2006, p. 201) defines sampling as *“the deliberate choice of a number of people to represent a greater population.”* Anderson argues that it might be conceivable to gather data from everyone in a very small organization; nonetheless, in the majority of cases it is essential to select a sample of people from whom information will be gathered. For the purposes of the present study, given the large number of customers of the Libyan airline companies, the sample size was 584, which represents the total number of questionnaires distributed to the customers of these two airlines. There are many reasons for sampling, such as decreasing costs, achieving better result accuracy, data collection speed, availability of population elements (Cooper & Schindler, 2001).

There are two major ways of determining an appropriate sample, probability sampling, and non-probability sampling. The former involves determining a sample that is statistically representative of the study population; hence, it should reflect the characteristics of the study population. *“Probability sampling is the: Selection of sampling techniques in which the chance, or probability, of each case being selected from the population is known and is not zero”* (Saunders et al., 2007, p. 607). If probability sampling is used, sampling error can be estimated. Error here is measured as the extent to which the sample characteristics may diverge from those of the population. Therefore, when results are reported, a plus or minus sampling error is given in relation to possible deviation from the picture present in the population. However, in non-probability sampling, the extent to which the sample diverges from the population cannot be calculated.

According to Cooper and Schindler (2003, p. 163) in a probability sample each member in the target population has a known non-zero probability of being chosen (Birchall, 2009), and

hence has an equal chance of being selected from the population (Key, 1997). One of the main advantages of the probability sampling is its ability to provide information about the degree to which the sample differs from the population, namely sample error (Birchall, 2009). Key (1997) affirmed that the computation of the sample error makes it easy to identify to what degree the results can be generalized to the population. However, this method of sampling is more expensive compared to the other types, it takes a long time; and it is relatively complicated (Lie, 2009) and in many cases is not feasible given the lack of an appropriate sampling frame.

There are several types of probability sampling, such as simple random sampling, systematic sampling, stratified sampling, and cluster or multi-stage sampling (Cooper and Schindler, 2003; Birchall, 2009; Lie, 2009).

**1-Simple random sampling:** in this type, every member of the population has an equal and known chance of being selected from the population. Although it represents an ideal and perfect type of probability sampling, it is difficult to identify every member of the population, particularly in a large population.

**2- Systematic sampling:** it is usually used instead of simple random sampling. The target sample size has been computed first. Then every a sample of the population is selected from a list of population members. Such a type is restricted by the population members, and by the problem of the arrangement of the elements in the list that can emerge and can cause bias.

**3-Stratified sampling:** in this type of sampling the population can be classified into sub-populations; each of them consists of a number of members who share one or more common characteristics. Then, random sampling is used to select members in each sub-population or group.

Non-probability sampling is also called non-random sampling. In these methods, cases are selected from the target population in a non-random way (Birchall, 2009). This means that there is not an equal probability of selecting each member from the total population. There are several types of non-probability sampling, such as, convenience, judgment, quota, and snowball sampling (Key, 1997; Tashakkori & Teddlie, 1998; Birchall, 2009).

**1-Convenience sampling:** in this type, the members of the sample are selected according to their availability. Thus, members who are ready and available are selected. Although, this

type is cheap and quick, how such sampling represents the population and how reliable the results are cannot be known.

**2-Judgment sampling:** the members of the sample are selected according to specific criteria determined by researchers. The determination of such criteria depends on deliberate and judgment efforts without any randomisation. This can be done by focusing on specific groups or area in the sample.

**3- Quota sampling:** a sample can be chosen through two processes: firstly, determination of the strata and their features; secondly, the use of convenience or judgment sampling to select the required number of cases from each stratum.

**4- Snowball sampling:** can be used when the required characteristics of the sample are rare. In this case, the researcher selects a small number of cases that reflect the required features and these initial members are used to locate other members. One of the most important drawbacks of such a type is that it is difficult to represent the target population.

These are the principal types of non-probability sampling; however, this approach comes at a high price. Since specific elements are chosen to 'filter' the sampling to fit specific research purposes, this weakens the researchers' confidence in judging whether the sample is representative. Bias is also possible because this method restricts researcher's ability to calculate sampling error. Owing to these disadvantages care needs to be taken when interpreting results or findings as the results are not usually generalizable to the population (Birchall, 2009). Therefore, a careful and critical approach is needed in determining a non-probability sample to address the potential bias (Lai, 2009).

Finally, it is necessary to take issues of cost and time into accounting in selecting the sampling method used in this research. This study adopted a non-probability convenience sampling method to collect its data, collecting a large number of responses (584) to ensure a representative profile of respondents as possible. In terms of the actual collection of data, the following procedures were followed. For a period of three weeks, the researcher arrived at Tripoli international Airport at 9 am every day and remained until about 6 pm, to administer the questionnaire to passengers who were willing to complete it. The researcher located himself in a terminal of the airport only used by Libyan Airlines and Afriquia Airlines, and was therefore able to assume that all passengers in the terminal were customers of one, or both of these airlines.

The researcher asked passengers in the terminal if they would be willing to complete the questionnaire, and where necessary showed his letter of introduction explaining the purposes of the work and the undertaking of confidentiality. Most respondents were able to complete the questionnaire alone, but some asked the researcher for help or clarification. The researcher had copies of the questionnaire available in both Arabic and English.

**Table 4-3: The Nationality of Respondents.**

<b>Nationality</b>	<b>Frequency</b>	<b>Percentage</b>
Libyan	369	63.02%
Australian	59	10.01%
Canadian	48	8.02%
Other	108	18.05%
Total	584	100%

**Table 4-4: Questionnaire Language requested.**

<b>Language</b>	<b>Frequency</b>	<b>Percentage</b>
Arabic	356	60.95%
English	228	39.05%
Total	584	100%

## **Determination of Sample Size**

There is little previous literature on determining the sample size for non-probability methods. However, attention should be given to reducing the potential statistical bias due to non – probability sampling. Hair and Anderson, (1998) state that bias can affect analytical results when multivariate analysis techniques are used.

Consequently, the sample size should be appropriately selected. The bigger the sample size, the more stable the results.

Based on the above discussion, the sample size achieved in the current study was 584. The unit of analysis in the current study was the individual customers of the two airlines. The respondents' consisted of customers of the two Libyan airlines travelling into or out of a terminal at Tripoli international Airport that was solely used by the airlines surveyed. These

individuals were suitable because they had experience of the airlines' efforts at service recovery, and the effect of these efforts on perceptions of justice of satisfaction.

## **Field Research**

The researcher travelled to generate the necessary data for this study to Libya in December 2009, where the work was carried out in the field. The research process was conducted among the passengers of two airlines; Libyan Arab Airlines and the Afriqiyah Airlines. This research represents an exploratory study. The researcher started by distributing the questionnaires to the target population of the study, airline customers of the two airline companies, in early January 2010. Before beginning the distribution of the questionnaire, the researcher made efforts to identify difficulties or problems that may face researchers in the administration of a questionnaire, in order to overcome these. In fact, this preparation resulted in several amendments to the wording of some questions before embarking on this work. The advice of my supervisors and colleagues was taken into account, and resulted in the re-wording of some questions, and the literature on research methods was consulted to assist on a research study to find out more about distribution techniques.

Before distributing the questionnaire, the researcher contacted the public relations departments of both airlines to identify the best solutions to the practical problems of administering a questionnaire in a busy airport. A schedule was arranged for the researcher, so that he could operate under the best circumstances, and this proved to be extremely valuable. Given that the target was a sample of clients at the airport in Tripoli (Libyan Arab Airlines and Afriqiyah Airways), and the researcher obtained the agreement of the respondents to participate in the questionnaire in person, in line with the usual practice.

In terms of notes taken during the field research, the most valuable input came from airline staff working at Tripoli airport during the time the researcher collected data. Several informal talks with frontline staff of the two airlines gave an impression of morale, which was good. In terms of the most valuable information collected informally in the form of notes, this derived from more senior staff of the airlines. Prior to the researcher distributing the questionnaire to customers of the two airlines at Tripoli airport, it was necessary to make certain practical arrangements with managers of the two airlines to ensure that airline staff did not hinder the data collection process. The researcher met with two senior managers for this purpose: Fouzi Ben Ehamada, Head of the Quality and Complaints Department for Libyan Airlines, and

Mustafa ElMaradi, Financial General Manager of Afriqiah Airlines. These meetings were not formal interviews, but the researcher gained some valuable background information from them that helps to put the research findings into context. It was clear from both managers that neither airline was collecting data on customer satisfaction in any systematic way, and that the process of dealing with customer complaints was a purely reactive one; staff were trained to react to complaints rather than prevent them ever happening. Mr Ben Ehamada outlined the typical compensation offers for certain frequently occurring service failures and how staff were trained to apologise for service failures. Mr ElMaradi outlined his own airline's systems of apology and compensation and described the difficulties of maintaining consistent levels of service among service staff widely distributed around the world, citing the recent opening of Afriqiah Airline check in desks in Johannesburg and Beijing; he felt that high quality training and reliable IT infrastructure were vital to maintaining service quality consistency. According to Mr ElMaradi, frontline staff from his airline was receiving training in the UK, Egypt, Jordan, Tunisia and Ukraine. The managers of both airlines stated that they were acutely aware of the threat of competition from more established international airline brand, and that their companies were investing heavily in service and service recovery as ways of competing more equally with this threat.

The researcher had available both Arabic and English versions of the questionnaire, because in some cases the respondents were Libyan or the nationals of other Arab countries and spoke Arabic, while most other travellers spoke English. The time taken to complete the questionnaire varied from person to person, ranging from 15 to 25 minutes each. Given that the majority of respondents did not have a great deal of time it was necessary to quickly explain the factors that constituted the questionnaire, taking account of issues such as the culture of economics of the respondent's country of origin if possible, and telling the respondents of their right to confidentiality with regards to the data collected. Before starting any distribution, it is important to explain the subject and purpose of these questionnaires, and also explained some of the concepts to help respondents to answer all questions with confidence and knowledge. It was also confirmed that the data would be dealt with confidentially and not be used for any purposes other than scientific research.

In terms of the difference in responses of Arabic and English speakers to the questionnaires they were given, the researcher noted that it was necessary to provide more help and answer more questions for respondents who were answering the Arabic questionnaire. In particular, the concept of 'service recovery' was not well understood, even though a direct Arab

translation exists. Furthermore, the concepts of loyalty and satisfaction are covered by one word in Arabic, and not surprisingly these concepts were conflated by Arabic speakers; this was one reason why the issue of satisfaction was treated as a separate entity in this study. By contrast, the English speakers asked fewer questions and were for the most part familiar with the concepts being investigated.

In addition to the completion of the distribution of all questionnaires the researcher made and recorded certain observations through such actions as informal conversations with respondents, and these form a part of the data which throws some light on the quantitative data collected. For example, informal conversations with airline staff revealed that at the time the data were collected the airlines themselves were making no effort to collect their own data on customer satisfaction, leading to the conclusion that their efforts at service recovery were purely reactive, in response to customer complaints. All distributions were conducted in the Tripoli airport on the dates that are arranged in advance.

The next available respondent sampling of customers of the two airlines studied, passing through Tripoli international airport, represents a further context within which the findings of this study should be viewed. The views of the participants with regard to service recovery were collected from customers with a wide range of backgrounds, both Libyan and non-Libyan, English and Arabic speakers. The key demographic information on the participants was collected in the first stage of the questionnaire, and can be found in section descriptive statistics for main study.

## **Factor Analysis**

Factor analysis is a multivariate method used to recognize common underlying variables called factors within a larger set of measures (Hair et al., 1998). The following section discusses some of the methods of factor analysis most commonly applied and their relevance to the current study.

### **Exploratory factor analysis versus confirmatory factor analysis**

Exploratory factor analysis and confirmatory factor analysis are both used to examine the internal reliability of a measure (Kline, 1994). Exploratory factor analysis investigates and condenses the underlying correlation structure for a given data set.

Confirmatory factor analysis is used to test hypotheses or theories by examining the correlation structure of a given data set against a hypothesized structure. There are four main stages in factor analysis (Ocal, Oral, Erdis, and Vural, 2007):

**1-Initial solution:** the first stage used in factor analysis is to test the degree of correlation between the variables. When such correlation is weak, it is not feasible for these variables to have a common factor, and the correlation between these variables is not studied. Two tests are suggested to validate whether the remaining variables are factorable: Kaiser-Meyer-Olkin (KMO) and Bartlett's Tests of Sphericity (BTS).

**2- Extracting the factor:** there are two key methods for extracting factors, namely principal component analysis and common factor analysis. The main purpose of principal component analysis is to derive a comparatively small number of components that can explain the variability evident in a larger number of measures, which is often called 'data reduction'. However, the main purpose of common factor analysis is to discover the underlying structure or relationships among variables (Hair et al., 1998). Therefore, the choice between the two methods depends on the research question and the objectives of the research. If the purpose is to determine and identify the factors that are responsible for a set of observed responses, then common factor analysis will be the best choice. On the other hand, when the research purpose is to reduce the data, principal component analysis is better (Decoster, 1998; Hair et al., 1998). The current study uses common factor analysis in order to discover the relationships between variables. The most common methods used in common factor analysis technique are maximum likelihood and principal axis factoring. Fabrigar, Wegener, McCollum and Strahan, (1999) contend that where there is normally distributed data, the maximum likelihood is optimal. In contrast, if the assumption of multivariate normality is violated, they recommended principal axis factoring. Therefore, principle axis factoring is used in this study.

**3-Selection of the number of factors retained:** the most commonly used technique for this is recommended by Kaiser (1960), which is called the latent root criterion. In this technique only the factors having latent roots or Eigen value greater than 1 are considered significant and all factors with Eigen value less than 1 are considered insignificant. This technique is the default in most statistical software packages (Hair et al., 1998). In the current study, as recommended by Kaiser (1960), factors that have an Eigen value greater than one are treated as relevant.

**4-Rotation of factors:** the next decision concerns rotation methods. The aim of rotation is to simplify and elucidate the data structure and produce more interpretable factors, while

maintaining the number of factors and his variance extracted from fixed items (Kim & Mueller, 2003). There are two techniques of rotation to choose from (Hair et al., 1998), which are:

(a) Orthogonal rotation assumes that the factors are not correlated. Varian, quart IMAX and Equifax are commonly available orthogonal methods of rotation. Varian is by far the most common choice.

(b) Oblique rotation assumes that the factors are correlated: it includes direct obliging, quatrain, and premix methods. There is no widely preferred method of oblique rotation: all tend to produce similar results (Fabrigar et al., 1999). There is no specific criterion developed to guide the researcher in determining the specific technique. Varian is the default rotation methods in most statistical programmes. However, the choice between them should be on the basis of the particular need within a given research problem (Hair et al., 1998). Factor analysis was conducted in the current study using Varian rotation, which rotates the factors while keeping them independent and at right angles to each other, and assumes that factors are not correlated.

## **Ordinal regression technique**

Regression techniques such as linear, logistic, and ordinal regression are useful tools to analyse the relationship between multiple independent variables and a dependent variable. They also allow the estimating of the magnitude of the effect of the independent variables on the dependent variable. The choice between these techniques depends on the measurement scale of the dependent variables. Linear regression is the best choice when the dependent variable is measured on a continuous scale, while logistic regression works well for binary or dichotomous dependent variables. When the dependent variable is ordered, an ordinal regression technique should be the best choice (Chen & Hughes, 2004).

Due to the ordinal nature of the dependent variable in the current study, ordinal regression is used within the Statistical Package for Social Science (SPSS) version 14.0 to analyse the relationship between efforts at service recovery and its impact on customer satisfaction.

Ordinal regression is a statistical technique developed by McCullough in 1980 and is used when response is categorical with an ordered outcome. The outcome of the regression model provides predicted probabilities for each level of the response. The major decision involved in building an ordinal regression model is choosing the link function that demonstrates the

model's appropriateness. Although an ordinal regression model does not assume normality or constant variances, which are required in other regression techniques, it assumes that the corresponding regression coefficients were equal across all levels of the categorical dependent variable (Long, 1997). This is called the 'assumption of parallel lines'. Therefore, the test of parallel lines should be assessed to make appropriate judgments concerning the model adequacy for applying ordinal regression (Long, 1997). This means that if the suggested model does not achieve such an assumption, ordinal regression should not be used.

## **Non-parametric Statistics**

Non- parametric statistics are statistical techniques used in testing hypotheses and have less restrictive assumptions than parametric tests (Gibbons, 1993). The advantages of non-parametric statistics can be summarized as follow (Gibbons, 1993; Siegel & Castellan, 1998):

- 1**-they are distribution free. This means that they do not assume the normal distribution.
- 2**-they are appropriate to count data and to nominal or ordinal levels of measurement.
- 3**-they do not require random samples, they only require the assumption that the samples come from any continuous distribution.

Non- parametric statistics are appropriate for the current study, for the following reasons.

Firstly, given the sample technique adopted in the current study, the criteria are met through the respondents from the targeted population. Thus, non-parametric tests are more appropriate as they do not require the use of a random sample technique. Secondly, the distribution in the current study is non-normal so, non-parametric tests are the best choice because they are distribution free tests. Finally, the current study uses ordinal scale data with five-point Likert scale, which measure respondents' degrees of agreement with questionnaire items. Such a scale is not strictly appropriate for analysis by parametric tests.

As a result of the above, a non-parametric measure of association, Spearman's tests was adopted in the current study to examine the strength of the relationships between service recovery and customer satisfaction; service recovery and justice; customer satisfaction and justice.

## Validity and Reliability

Measure validity and reliability are interconnected. If an instrument is valid, it can also be anticipated that it is reliable. However, if it is reliable, it is not necessarily valid. Although validity and reliability can easily be tested, the results must be treated with caution. Reliability can be affected by factors associated with the researcher, the respondents, and the conditions of the study. Variations in the tests might reflect these factors rather than the quality of the instrument.

Validity means “*the success of a method in probing and/or assessing what it sets out to probe or assess*” (Taylor et al., 2006, p. 2), Taylor et al. (2006) maintain that if a method is valid then differences in the findings between individuals or groups or organizations can be regarded as representing the differences in the characteristics under investigation.

There are four main approaches for the assessment of validity: face, content, predictive (criterion-related) and construct validity (Taylor et al., 2006; Saunders et al., 2007). When a measure involves an attitude scale and all of its items can be seen as having a common related theme, then the measure has face validity (Taylor et al., 2006). A further requisite that the scale items should between them cover all conceptual domains of the attitude investigated; then the measure is said to have content validity (Taylor et al., 2006).

In situations where a measure logically has to be an indicator of an observable criterion, the measure’s validity can be assessed by observing how good an indicator the measure is; this is predictive validity (Taylor et al., 2006). The essence of construct validity is to examine the scope of correlation between the measure considered and other measures for which the researcher can predict the scope of correlation on appropriate theoretical grounds (Taylor et al., 2006).

Reliability is the “*degree of consistency in measurement (impeded by random error)*” (Rubin and Babbie, 2010, p. 82). Reliability has to do with the amount of random error in a measurement, and the more reliable the measure, the less random error in it; however, reliability does not guarantee accuracy (Rubin & Babbie, 2010). Moreover, the concept of reliability is not often used in qualitative research as a result of the subjective nature of this type of research (Daymon & Holloway, 2011). These authors argue that the researcher “is

*the research tool, the research is context specific and therefore the research would be difficult to replicate* (pp. 78-79)". They add that if one's study is repeated by other researchers, they would be unlikely to accomplish similar findings, even under similar circumstances and condition reliability is evaluated using three methods as follow:

**1-Factor loading** to achieve high convergence, standardised factor loading should be greater than .50 and ideally be above .70

**2-Variance extracted (vet)** is the squared factor loading for the construct. A higher variance extracted value demonstrates that the indicators are truly representative of the construct. The value of vet should be greater than .50 for a construct.

Reliability is a kind of construct validity that focuses on the quality, consistency, and overall reliability of the measurement. Any measure can be described as reliable when it achieves the same result on repeated occasions. Internal consistency is its most commonly used measure: it is used in one group or occasion to examine the consistency of different indicators or the same construct within that measure.

Cronbach Alpha is the most commonly used method to calculate internal consistency.

It is based on the average inter-item correlation. There is no agreement between literatures regarding the acceptable value of reliability. However, the widely accepted value of reliability is .70 or above which was adopted in the current study.

Discriminate validity measures the degree of correlation between two variables that should not be theoretically similar when operationalized by the estimation and comparison between the vet for each construct, and the squared inter-construct correlation (sic) for that construct, which is required in order to determine the discriminate validity. When vet is greater than sic, it is an indicator of discriminate validity.

**Table 4-5: Cronbach  $\alpha$  Value**

<b>Construct</b>	<b>Dimension</b>	<b>number of items in questionnaire</b>	<b>Cronbach <math>\alpha</math></b>
<b>Recovery</b>	Compensation	4	.919
	Speed	4	.437
	Apology	4	.887
<b>Justice</b>	Distributive justice	5	.882
	Procedural justice	8	.923
	Interactional justice	8	.919
<b>Customer satisfaction</b>	Customer satisfaction	12	.843

## **Data Analysis Techniques**

### **Quantitative Data**

In this study, the raw data collected from the questionnaire process were prepared for analysis using computer software. Microsoft Excel was used for data preparation and Statistical Package for Social Science (SPSS) version 14.0 was used to analyse the data statistically. Given the nature of this study, non-parametric statistical techniques were employed. According to Yu et al. (1993), the research strategy is determined by the extent to which there exists knowledge about the subject, which may guide a more specific search for answers to the question. The literature review of the development of customer feedback shows that two main approaches have been used by scholars in customer feedback research: the inductive approach and the normative approach.

Hair (2007, p. 56) argues that: “*Current customer feedback policies have developed over the years in a framework that applies implicitly or explicitly the normative deductive or the inductive-deductive approach*”. In terms of descriptive approaches (inductive), the customer feedback literature indicates that in the early stages of its development, customer feedback theory arose out of customer feedback practice (Yu et al., 1993). Customer feedback principles and theories have been deduced by individuals or groups through observing customer feedback as they see it being practised, and who have then proceeded to construct

generalisations and principles of customer feedback from these observations on the basis of recurring relationships.

Deducing customer feedback theory and principles through studying the problems that arise from the real-world of customer feedback practice might lead to customer feedback theory and principles that cannot gain general acceptance from marketers, owners and others who have different interests. The use of the descriptive approach for developing countries as a means of building their own customer feedback theory and framework is also criticised as being inappropriate by Hair (2007). He states that “the early approach (descriptive approach) was based on a rationalisation of current practice. Clearly, this does not offer much hope to developing countries as their current practice is often inadequate, and in any case is usually based on an imported system” (p.58 ).

Nevertheless, the importance of the descriptive approach cannot be overlooked. It plays a significant role in much customer feedback research. This is because descriptive research involves collecting data in order to test a hypothesis or answer questions concerning the current status of the subject of the study and to determine and report the way things are (Hair, 2007; Krishna, Sivakumar, & Mathirajan, 2009). Thus, it is considered acceptable when background information on the context and environment represents an important part of the database. Some questions in this study are about customer feedback as well as its environmental factors in Libya. Using the descriptive approach is therefore essential and further could be useful in the process of analysing and organizing the material collected from the literature review and fieldwork.

## **Survey Research**

Survey research is the main data collection instrument in this study. It is a means of collecting data about the characteristics, actions or opinions of a large group of people. It is best choice of method to answer research questions about what, how much, how many and why (Pinsonneault & Kraemer, 1993). Survey research has the following features (Floyd & Fowler, 2002):

**1-**It is a quantitative method, using statistical techniques in order to describe specific aspects of an identified population.

**2-**The main method for data collection is to ask people questions, their answers will be used and analysed by statistical techniques.

**3-** The data are generally collected from a portion of the target population, known as a sample. Such a sample should be large enough to allow extensive statistical analysis. In such a way the findings can be generalized to the population.

Survey research is the best choice of method to answer the research question of the current study, which is because answering such questions represents a key concern in survey research (Pinsonneault & Kraemer, 1993).

## **Measurement and Scales**

There is not an ideal measurement level; each study determines the measurement level which is the most appropriate for its data.

Determination of the level of measurement can be used as a guide to how the data from the variables can be interpreted, and to the most appropriate statistical technique to use. There are four levels of measurement, each with different features, namely, ordinal, interval and ratio (Kidder & Judd, 1986; Cooper & Schindler, 2003).

**1-**A nominal scale is a level that measures numerical value by labelling its unique attribute without any ordering of cases. For this level of measurement, few statistical techniques can be used. So researchers should be aware when using this level.

**2-**The ordinal level focuses on measuring the attributes or data in an order that ranges from the bottom to the top. However, the distance between categories cannot be determined.

**3-**The interval level can order and categorise the value. In addition, to distance between values can be measured and interpreted precisely. When using such a level, a variety of statistical techniques can be used.

**4-** A ratio can rank value in an order where the intervals are equal in measurement and have an absolute zero.

In this study, most of the data is collected through the application of five-point Likert scale type questions, which consist of statements that measure the directions and the dimensions of

the attitude toward the specific phenomena, (Smith, 2001) to evaluate whether there was a positive or negative attitude and the strength of such attitude.

Although Likert scales are strictly ordinal variables, they are often treated as interval because they have a large number of categories (Kidder & Judd, 1986). This is further affirmed by Garson (1989, p. 23), who stated that "there is widespread agreement that the greater the number of points on an ordinal scale, the less the likelihood of substantive error of interpretation when using ordinal data for interval procedures". He added that the use of ordinal data in five-point-Likert scales with interval statistical techniques has become common in social science. This is further elaborated by McNabb (2004) who explains that the items of the Likert scale are used to rank the case but they are not used as a real measurement, which measures the quantity of a characteristic. In addition, when adding the numbers assigned to response categories for each item, the measurement can then be treated as if it was an interval.

Because of the above reasons, McCall (2003) suggests the following practical assumptions to logically view the Likert scale as an interval scale:

- 1- The scale is ordinal in nature;
- 2- Numerical values, assumed on an interval scale, can be assigned to the individual item responses;
- 3- The numerical values of the items on the scale can be summed to arrive at an overall score or perhaps average score for those teams considered as addressing the same underlying construct;
- 4- For those items that have been summed or averaged, a validity analysis has demonstrated that they are associated with the same underlying construct, as well as reliability analysis.

Given this discussion the use of Likert-type scales is appropriate as is their treatment as either an interval or ordinal level of measurement.

The study measured service recovery with recalled customer satisfaction. The study used a survey comprising structured scale items and open-ended questions. Scale items were measured on the standard five-point, bi-polar adjective Likert scale ranging from strongly

disagree (1) to strongly agree (5). Using the Likert scale is consistent with past behavioural and services marketing research methodologies (Zeithaml et al., 2003).

The following five scales were used in the main study to test the measurement model. For each service recovery effort, the scales measured customer perceptions of the behaviour of the company in terms of interactional, distributive and procedural justice; overall justice; and customer satisfaction.

## **Operational Definitions**

### **Independent Variable**

#### **The Measurement of Service recovery**

The abstract nature of a theoretical concept or phenomenon is often a source of contention in measurement. Unlike tangible goods, service recovery is not a marketing phenomenon that is not easily measured, nor can it be examined directly. The level of abstraction in this concept requires procedures that facilitate the identification of observable behaviour related to the construct. The conceptualisation of service recovery enables the concept to be operated in the sense that behaviour or other performance related criteria is easily subjected to investigation or observation. The attributes of behavioural aspects will then serve as a reflection of the phenomenon of interest in the research. An operational definition of service recovery is a means of translating the concept into observable events, whereby the theoretical concept is transformed into events, so that subjects are able to grasp their meaning and observe characteristics or features that suggest the underlying principle of this theory. Indicators are empirical dimensions that reflect the higher-level abstraction and they are established to denote action-level measures, in contrast to the concept, which occupies a research level. However, the epistemic gap between theory and research means that no theoretically defined concept can be directly translated into operations, nor can theoretical proposition be tested empirically (Smith et al., 1999). The lack of correspondence between measurement and concept will undermine the predictive power of the service recovery model and the practical relevance of the result (Bagozzi, 1994). Since service recovery is a form of problem-resolution mechanism in an organization, the main underlying phenomenon created by this theoretical concept is its pervasive approach to satisfying aggrieved or dissatisfied customers. As a planned process to return normality to service delivery after the occurrence of mistakes

or failures on the part of the service provider or the system, service recovery is very concerned with restoring the and regaining confidence of customers. Doing it right the second time is an assurance that even though service mistakes are inevitable, customer expectation and perception adjust to perceive the extent of service quality as one entity. Translating the service recovery concept into observable events is facilitated by the use of a multi-item scale developed in the study, in the form of attitude statements to represent various facets of service recovery.

### Measurement scale

Service recovery was measured in this study in terms of compensation, speed and apology; and their effect on perceptions of justice, (distributive, procedural and interactional justice); with customer satisfaction as an additional variable, using a five-point Likert scale. The reason for using a Likert scale of five was to make the research tool sensitive to the respondent’s opinions without making it too complicated. The Likert scale employed in this study ranged between 5 = strongly agree, 4 = agree, 3 = do not agree nor disagree, 2 = disagree, 1 = strongly disagree. The statements offered to respondents in the questionnaire phase are tabulated below, divided into the different classifications of service recovery.

**Table 4-6: Measurement of Service recovery (compensation).**

<b>Service recovery compensation</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
11-The airline offered a good discount as part of the solution to my service problem.	1	2	3	4	5
12-The airline offered a good solution to my service problem.	1	2	3	4	5
13-The solution offered by the airline was acceptable to me.	1	2	3	4	5
14-The airline offered a good service fix.	1	2	3	4	5

**Table 4-7: Measurement of Service recovery (speed).**

<b>Service recovery Speed</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
15-The airline solved my problem and completed the recovery plan as soon as I reported the problem.	1	2	3	4	5
16-The airline completed the recovery plan quickly.	1	2	3	4	5
17- My problem was solved in one go and I did not need to ask for further help.	1	2	3	4	5
18-I was not kept waiting unnecessarily and a solution was found quickly.	1	2	3	4	5

**Table 4-8: Measurement of Service recovery (Apology).**

<b>Service recovery Apology</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
19-The airline said they were sorry for any inconvenience immediately.	1	2	3	4	5
20-The airline wrote an appropriate apology letter to me quickly.	1	2	3	4	5
21-The airline gave some appropriate compensation as an apology.	1	2	3	4	5
22-The airline gave me additional benefits as tokens of apology during the flight.	1	2	3	4	5

## **Intervening Variable**

### **Measurement of Distributive Justice**

To measure distributive justice, this researcher adapted scale items from Smith and Bolton (1998) and other authors cited in the above discussion of the interactional justice scale. The author modified the questions by removing references to a problem, as indicated above, because this research tested across all possible satisfaction outcomes.

**Table 4- 9 : Measurement of Distributive Justice.**

<b>Distributive Justice</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
23- It took me too long to get airline employees to resolve my problem.	1	2	3	4	5
24- The way my problem was resolved reflected the price I paid for the flight.	1	2	3	4	5
25- In resolving the problem the airline gave me what I needed.	1	2	3	4	5
26- To get my problem solved involved a lot of effort from me.	1	2	3	4	5
27-I was happy with the outcome.	1	2	3	4	5

### **Measurement of Procedural Justice**

Procedural justice has been measured by the attributes of process control (Kanfer, Sawyer, Early, & Lind, 1987; Lind & Tyler, 1988; Goodwin & Ross, 2001), decision control (Brett, 1986; Heide & George, 1992), accessibility (Bitner et al., 2002), and timing and speed (Fisk & Coney, 1982; Maister, 1985; Narver & Slater, 1990; Sevrt, 2002).

For this study, the author modified some previously validated procedural justice scale items. A scale item about service being performed in a timely fashion (Tax, 1993, Tax et al., 1998) was deleted to avoid overlap with interactional justice inquiries and to provide a greater distinction between interactional justice and procedural justice.

**Table 4-10 : Measurement of Procedural Justice**

<b>Procedural Justice</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
28-The airline procedures were fair.	1	2	3	4	5
29-The airline procedures were sensible.	1	2	3	4	5
30-The airline procedures were clear.	1	2	3	4	5
31-The airline procedures were streamlined.	1	2	3	4	5
32-The airline procedures did what I expected.	1	2	3	4	5
33-The procedures put the customer first.	1	2	3	4	5
34-The procedures made me feel important.	1	2	3	4	5
35-The procedures made me angry.	1	2	3	4	5

### Measurement of interactional Justice

This study measured interactional justice using scale items adapted from the scale used by Tax et al. (1998) in a service recovery study. References to problems were removed from scale items to allow for an entire range of outcomes in the research. For example, “*The Company’s personnel were courteous in solving my problem*” was changed to “*Employees were always willing to help you*” This researcher also added the final scale item. Smith acknowledged previous use of the scale by Clemmer (2003), Tax (1993), and Tax et al. (1998).

Particularly with regard to timing within the service recovery, past research has measured procedural and interactional justice using similar questions. Timing could refer to an employee’s speed, willingness, and sense of urgency. Previous studies (Tax, 1993; Tax et al., 1998; Prasongsukarn, 2005) have included timing only on the procedural justice scale. Some studies have collapsed interactional and procedural justice into a single construct because of their high correlation (Swanson, 1998). Further adaptations by previous researchers distinguish the timeliness of service delivered by company personnel, i.e., interactional justice, from procedural justice.

**Table 4-11 : Measurement of interactional Justice.**

<b>Your overall responsiveness (interactional Justice)</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
36-Employees were always willing to help you.	1	2	3	4	5
37-Employees were never too busy to respond to your request or complaint.	1	2	3	4	5
38. The behaviour of employees gave you confidence.	1	2	3	4	5
39-Employees had the knowledge to answer your questions.	1	2	3	4	5
40- The employees gave you individual attention.	1	2	3	4	5
41-The employees put the proper effort into resolving my problem.	1	2	3	4	5
42-The employees’ communications with me were appropriate.	1	2	3	4	5
43-The employees gave me the courtesy I was due.	1	2	3	4	5

### Measurement of Overall Justice

Organizational literature from equity theory indicates that individuals rate justice using conclusions about interactional justice (Bies & Moag, 2002; Bies & Shapiro, 2002; Prasongsukarn, 2005; Lin et al., 2011) distributive justice (Homans, 1961), and procedural

justice (Lind & Tyler, 1988), especially in situations where a wrong has occurred. The scale chosen to measure overall justice was used by Yim et al. (2003) to study justice levels for patrons who sought redress.

**Overall justice:**

**44-In general, I believe that my complaint was treated fairly.**

Strongly disagree      Disagree      Neither agree nor disagree      Agree      Strongly agree

**Dependent variable**

**Measurement of Customer Satisfaction**

Customer satisfaction is the study’s dependent variable. This study used the most widely accepted performance-based scale employed in customer satisfaction research (Oliver & Swan, 1989; Blodgett et al., 1997; Westbrook, 2000; Weun, 2000; Smith, 2001; Westbrook & Oliver, 2002; Anderson & Sinivasan, 2003). Scale items suited the inquiry; no modifications were made. In this research, a five-point Likert scale (strongly agree / strongly disagree) was taken to measure the degree of satisfaction. The questionnaire was adopted from Tsai et al. (2006). Measurement items of customer satisfaction are listed in Table 4-12.

**Table 4-12 : Measurement of customer satisfaction.**

About your overall satisfaction With your fight	Strongly disagree	Disagree	neither agree nor disagree	Agree	Strongly agree
46- The airline online booking was easy. (if used)	1	2	3	4	5
47- Waiting time for check-in was unacceptable.	1	2	3	4	5
48- The airline flight boarding was efficient.	1	2	3	4	5
49-The flight departed and arrived at the promised times.	1	2	3	4	5
50- The airline provided good food and beverages.	1	2	3	4	5
51- Special meals are available. (If needed).	1	2	3	4	5
52-The plane was comfortable.	1	2	3	4	5
53-The plane was clean.	1	2	3	4	5
54- The airline left a negative impression.	1	2	3	4	5
55-I would not recommend this airline to my family and friends.	1	2	3	4	5
56-Next time I fly, I will change to another airline company.	1	2	3	4	5
57-The service I received was good.	1	2	3	4	5

## **Factor Analysis Applied**

Factor analysis reduces the number of variables and identifies variable relationship structure, i.e. it classifies variables. Hence it is a data reduction or structure detection method (the term factor analysis was first introduced by Thurston, 1931). The current study uses factor analysis for structure detection purposes in order to examine the underlying relationships between variables.

The use of structural factor analysis involves two steps:

**1-** Applying two tests to evaluate the suitability of data for structure detection, namely, Kaiser-Meyer-Olkin or KMO and Bartlett's tests of sphericity (Pallant, 2005).

The KMO test was proposed by Kaiser (1974) and is based on an index that compared correlation and partial correlation coefficients to measure the adequacy of sampling.

It takes values between 0 and 1. A high value (close to 1) indicates that factor analysis may be suitable for the data. On the other hand, if the value is less than .50, the result of factor analysis probably will not be very useful. Bartlett's test investigates the hypothesis that the correlation matrix is an identity matrix. This would indicate that variables are unrelated and therefore unsuitable for structure detection. Values less than .50 significance level indicate that factor analysis may be suitable for data.

**2-**Determining the factor extraction method. The purpose of factor extraction is to determine the factor needed to represent the data. The method to be used in the current study is common factor analysis, which includes several techniques. The appropriate method of common factor analysis depends on the distribution of data (Pallant, 2005). When the data is normally distributed, the best choice is to use the maximum likelihood technique. On the other hand, if the assumption of multivariate normality is violated, the best choice is to use the principal axis factoring technique. The current study used two tests to investigate normality, namely, skewness and kurtosis, and the one-sample Kolmogorov-Smirnov test. Skewness and kurtosis measure how much a distribution varies from the normal. The normal distribution is symmetric and has skewness value of 0. Kurtosis measures the extent of observation around a central point. The normal distribution has a value of 0. The one-sample Kolmogorov-Smirnov test is used to test the null hypothesis that a sample comes from a particular specified normal distribution. A significant result less than .50 means that the distribution is not normal (Hewitt & Cramer, 2008).

**3-** Determining a rotation method to maximize the relationship between variables and factor.

The rotation method to be used in the current study is Varian (as discussed earlier in this chapter).

## **Cronbach's Alpha**

If there are several subjects who respond to an item, it is possible to calculate the individual item variance as well as the variance for the sum scale. The sum scale variance will be less than the sum of individual item variances if the items measure the same variability between subjects, that is, if they measure some true score (Fayers & Machin, 2007). The variance of the sum of two items is equal to the sum of the two variances minus (two times) the covariance. The proportion of the 'true score variance' that is captured by the items can be estimated by comparing the sum of item variances with the variance of the sum scale.

## **Correlation Methods to Confirm Reliability and Investigate Association**

Although there is no agreement in the literature regarding the interpretation of strength of association of the correlation coefficient, the difference between most of them is not substantial (Gibbons, 1993; Hair, Money & Samouel, 2007). The current study has used the guideline suggested by Hair et al. (2007) for interpreting the strength of association of correlation coefficients. Hair maintains that for any measure of correlation, there are two indicators which should be considered. Firstly, the statistical significance, or the degree of surety, that determines that correlation analysis is reliable. This must be at least less than .05 or even less than .01 in some cases. This means that there is a less than a 5% or 1% chance of an item correlating. Conversely, it means if statistical significance is achieved in analysis, then the item can be accepted and the study can assume a relationship exists between variables. The second indicator is the value or the size of the correlation coefficient, which indicates the strength of association between variables.

**Table 4-13 : Summary of the ranges of correlation coefficient and how they are interpreted.**

<b>Ranges of correlation coefficient</b>	<b>Associations</b>
+ - .91 to + - 1.0	Very strong
+ - .71 to + - .90	High
+ - .41 to + - .70	Moderate
+ - .21 to + - .40	Small but definite relationship
+ - .00 to + - .20	Slight, almost negligible

**Source: Hair et al. (2007)**

Correlation is a measure of association between two variables - not designated as dependent or independent. Spearman's correlation and Pearson's product moment correlation coefficient are the two most popular correlation coefficients. Generally Spearman's technique is used when calculating a correlation coefficient for ordinal data. Pearson's technique is used for interval or ratio-type data. A correlation coefficient can vary from minus one to plus one (minus one indicates perfect negative correlation, plus one indicates perfect positive correlation). A zero correlation demonstrates no relationship between the two variables.

## **Correlation Coefficients**

A correlation coefficient, given as a number between -1 and 1, measures the extent to which two variables are linearly related. A perfect linear relationship with positive slope between the two variables gives a correlation coefficient of 1; if there is positive correlation, whenever one variable has a high (low) value, so does the other. A perfect linear relationship with negative slope between the two variables gives a correlation coefficient of -1; if there is negative correlation, whenever one variable has a high (low) value; the other has a low (high) value. As above, a correlation coefficient of 0 indicates there is no linear relationship between the two variables.

## **Pearson's Product Moment Correlation Coefficient**

Pearson's product moment correlation coefficient, usually denoted by  $r$ , is one example of a correlation coefficient. It measures the linear association between two variables that have been measured on interval or ratio scales. Non-linear relationships can give rise to misleadingly small values.

Inferences about the population correlation coefficient can be made. Most require an assumption that the variables are normally distributed. For non-normal populations non-parametric measures, e.g. Spearman rank correlation coefficient, are appropriate. In this study, Pearson's coefficient will be used to test correlation between the service recovery effort items and the overall customer score for satisfaction.

## **Response Rate**

The following formula was used to quantify the response rates (De Vaus, 2002). Due to the data collection method described in chapter four (section Sampling methods), the questionnaire distributed to the customers of the chosen Libyan Airlines all represented useable data. There were no illegible or unreadable data, and the response rate for the current study was therefore 100%. This response rate can be attributed to a number of factors: the researcher's personal administration of the questionnaire; the streamlined and unambiguous design of the questions, and the fact that passengers at the airport had time on their hands waiting for flights. Ordinal regression measures the relationship between a dependent and independent variable. Regression can be used to predict values of the dependent variable by reference to values of the independent variable. Predictions made in this way should technically remain within the known bounds of the variables. The line of best fit is a plot of the expected value of the dependent variable for all values of the independent variable. Technically, it thus is the line that "minimizes the squared residuals".

R-squared is the square of the correlation coefficient, it is known as the coefficient of determination. It ranges from zero to one and may be interpreted directly as the percentage of variance in the dependent variable explained by regression equation. The standard error measures the extent of variability around fitted regression line. It is the standard deviation of the points from the regression line.

## **R Square Tables**

R square is the coefficient of determination, and is expressed as a number between 1.0 and 0. It can provide information about the goodness of fit of a model, and offers a numerical representation of how well a regression data set approximates to data points in reality. In other words, it is a further measure of data correlation being beyond that which could be expected to exist by chance, with results close to 1.0 indicating a very close correlation. Whereas R square scores in excess of 0.05 are generally accepted to indicate a correlation in excess of that which could be accounted for by chance, the R square calculations of this study resulted in scores in excess of 0.40.

## **Summary**

This chapter sets out the philosophies of the main research, research approaches, strategies for research, research methods and methodologies, and issues related to data collection, population and sampling procedures used in this study. Its aim was to measure the development of customer satisfaction with the service provided by the companies, Libyan Airlines and Afriqiyah Airways. It discussed a number of philosophies of research, including three philosophies of ontology and knowledge (Realism, Positivism, and Constructivism). Various research approaches, including the deductive approach and inductive approach, a qualitative approach, quantitative approach, an exploratory approach, interpretative approach, and descriptive approach were also discussed. Based on the discussion of different research approaches, this study can also be classified as an exploratory study.

The process of fieldwork carried out by the researcher was discussed in some detail, including the procedures for determining the target population and selecting the research sample, and methods for conducting group questionnaires. The sample selected were customers of Libyan Airlines and Afriqiyah Airways. The customers were able to respond to questions and issues raised through the questionnaire. Sources of the documents used in this study were also identified and, finally and issues for consideration of validity and reliability were discussed.

In view of all of the above, the methodology implemented in this research was carefully followed to answer the research questions in an objective way. The methodology was identified as the best fit for the design of the research starting from the research philosophy, research approach, research strategy, and time horizon and data collection method. The data collection instrument has been pre-tested using a pilot study for a sample of 584 participants, selected on a 'next-available' basis from among the customers of both airlines. Exploratory and confirmatory factor analysis confirmed the readiness of the instrument with which the data can be empirically collected. The sample was drawn from the customers of two airlines: Libyan Airlines and Afriqiyah Airlines. Finally, the method by which the research questions will be answered and objectives met is discussed and explained. Results and analysis stemming from the collected data is detailed in chapter five. Having completed a description of the methodology employed in this study, it is now possible to consider the findings of the research, and the analysis made of them.

## Chapter 5 Results and analysis

### Introduction

This chapter presents the investigation of the association between service recovery, (compensation, speed, apology), justice (distributive justice, procedural justice, interactional justice) and customer satisfaction. In addition, it seeks to analyse customer responses to services failure complaints, especially in terms of the perceptions of justice such responses engender. In order to achieve these purposes the following steps are used:

1. Testing of the reliability of variables and related research
2. Factor analysis
3. Cronbach's Alpha to test the reliability of each factor
4. Inter-correlation methods to confirm the reliability of factors
5. Non-parametric test to measure associations'
6. Ordinal regression to investigate the influence of the variables (compensation, speed, apology) on the models of justice (distributive justice, procedural justice, interactional justice). These steps are applied to each area of the model. In addition, the combined measurement influence of all suggested models together is tested via ordinal regression. Similarly, empirical evidence on the effectiveness of efforts at service recovery would be hard to collect: making the connection between efforts and improved financial performance, for example, would be very difficult. Therefore, this study seeks customer perceptions of the justice of service recovery efforts, and the state of a customer's overall satisfaction, as indicators likely to result in either positive feelings towards an airline and a consequent likelihood to repurchase, or the opposite.

Reliability and item analysis are used in constructing measurement scales. They are also used to *improve* existing scales, and to *evaluate the reliability* of existing scales. Reliability and item analysis aid in the design and evaluation of scales consisting of multiple individual measurements (Kline, 1994). In this way it is possible to calculate statistics that aid in building and evaluating scales. Scale reliability is assessed on the correlations between individual items within the scale, relative to the variances of these items, and the correlation coefficient or the variance statistic (Thorndike & Hagen, 1977).

In this chapter the results of the data are analyzed, reviewed and discussed, involving the analysis of the quantitative data, which is of a type often called social statistics, and which is

usually associated with a wide range of statistical and analytical terminologies (David & Sutton, 2004). The data analysis employs a number of stages starting from collecting data, coding data, data entry, and analyzing data. All those stages were achieved by utilizing various applications used for different purposes in different phases of the analysis in order to support the analysis of the quantitative data yielding the intended statistical inference. All specialist software applications employed for this research are windows operating system based.

The Statistical Package for the Social Sciences (SPSS) was used in this research, version 14, through which different statistical techniques were employed and analyses, reliability analysis, frequencies and percentages, mean score, factor analysis and Pearson correlation. SPSS and the tests it makes possible were the method by which the research questions were answered and the research objectives were underpinned. The findings of this research validate the theoretical background from which this research was derived, and led to building the final conceptual framework reflecting the effect of service recovery on perceptions of justice. In addition, the results revealed new relations between the dependent variables that need to be supported in a theoretical background (Hair, 2010).

Chapter five presents the results of the statistical tests described in chapter four and applied to the raw data collected from this study's participants. These tests confirm the validity of the data collected, and enable conclusions to be drawn about the relationship between service recovery and dimensions of justice, in the perception of the participants. Furthermore customer satisfaction is included as an outcome of a successful service recovery effort, but it is a dependent variable of the study, and its relationship to service recovery and justice is not examined: this is primarily because the study is more concerned to test the relationship between the items of the elements of speed, compensation and apology and the dimensions of interactional, distributive and procedural justice.

## Descriptive Statistics

**Table 5-1: Demographic Statistics for Main Study (n=584)**

<b>Demographic</b>	<b>Item</b>	<b>Number of Respondents</b>	<b>Percentage</b>
<b>Gender</b>	Male	454	77.7%
	Female	130	22.3%
<b>Age</b>	18 – 30 Years	88	15.1%
	31 – 45 Years	301	51.5%
	46 – 59 Years	156	26.7%
	Over 60 Years	39	6.7%
<b>Job/Profession</b>	Student	77	13.2%
	Employee	382	65.4%
	Housewife	15	2.6%
	Retired	22	3.8%
	Self employed	88	15.1%
<b>Highest academic qualification</b>	Basic school certificate	108	18.5%
	High school diploma or Vocational diploma	48	8.2%
	University Degree	369	63.2%
	Masters or PhD Degree	59	10.1%
<b>Choice of airline</b>	Yourself	392	67.1%
	Secretary	47	8.1%
	Travel agent	38	6.5%
	Family	59	10.1%
	Other	48	8.2%
	<b>Nationality</b>	Libyan	369
	Non Libyan	215	36.8%

## **Questionnaire items 1-10 and 59-64: Purpose of travel and demographic information**

Demographic statistics for the respondents to the questionnaires were collected through items 59-64, and their reason for travelling together with their experience of service failure were investigated through items 1-10: analysis of these findings are presented in table 5.18. The most striking statistics in the table are:

The preponderance of male respondents; the relative youth of the respondents (66.6% were 45 years old or under); and the high level of educational attainment of the respondents (73.3% having a university degree or higher). Moreover, a large proportion of those travelling (65.4%) were government employees. These statistics raise some interesting questions, the answers to which are to some extent attributable to social, cultural and demographic causes.

Why were there more male travellers?

Culturally, in Libya it is less likely that a woman will travel abroad than a man. Moreover, any woman travelling abroad or within Libya would almost always be accompanied by a man. In addition, a large percentage of respondents were travelling for the purposes of business or study, and again, culturally, such travel is much more likely to be undertaken by men.

Why was the age profile predominantly young?

To some extent this reflects the demographic of Libya as a whole; where more than 50 % of the population is under the age of 30 years. However, air travel is relatively expensive in comparison to Libyan living standards, so it is important to note that many young Libyans (mostly male) are encouraged to further their education and develop their skills abroad, at the expense of the state. In addition, Libyan universities attract students from other (mostly Muslim) countries, who generally arrive in the country by air.

Why were respondents so well educated?

Again, to some extent these statistics represents a trend in Libyan society, where the provision of free higher education is encouraging a large proportion of the population to take degrees at university. Moreover, well-educated people are more likely to advance quickly in government service or business, and therefore are more likely to travel abroad for their work. The same applies to arrivals to Libya.

This chapter now considers the data on the items within the elements of service recovery, namely compensation, speed and apology. Initially an analysis of these items within their groups using Cronbach’s Alpha test was undertaken, to assess internal validity of the items groups and to identify items which only correlated weakly and which therefore needed to be dropped from subsequent analysis.

## Classification of flight experience

Table 5-2: Purpose of travel

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Business	169	28.9	28.9	28.9
Tourist	182	31.2	31.2	60.1
Visiting friends/relatives	102	17.5	17.5	77.6
Education	79	13.5	13.5	91.1
Medical	52	8.9	8.9	100.0
Total	584	100.0	100.0	

Table 5-3: Which class are you travelling today?

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Economy	488	83.6	83.6	83.6
Business	96	16.4	16.4	100.0
Total	584	100.0	100.0	

Table 5-4: Are you satisfied with the fare you paid on this route?

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	510	87.3	87.3	87.3
No	74	12.7	12.7	100.0
Total	584	100.0	100.0	

Table 5-5: Are you a frequent flyer with either Libyan or Afriqiah airline?

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	236	40.4	40.4	40.4
No	348	59.6	59.6	59.6
Total	584	100.0	100.0	100.0

Table 5-6: With which airline are you a frequent flyer?

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Libyan Airlines	332	56.8	56.8	56.8
Fly Afriqiyah Airways	252	43.02	43.2	43.2
Total	584	100.0	100.0	100.0

Table 5-7: Libyan Airlines

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
1	156	26.7	38.1	38.1
2	100	17.1	24.4	62.6
3	49	8.4	12.0	74.6
4	31	5.3	7.6	82.2
5	14	2.4	3.4	85.6
6	19	3.3	4.6	90.2
7	6	1.0	1.5	91.7
8	6	1.0	1.5	93.2
9	13	2.2	3.2	96.3
10	6	1.0	1.5	97.8
11	1	.2	.2	98.0
12	2	.3	.5	98.5
14	2	.3	.5	99.0
15	2	.3	.5	99.5
16	1	.2	.2	99.8
20	1	.2	.2	100.0
Total	409	70.0	100.0	
Missing System	175	30.0		
Total	584	100.0		

Table 5-8: Fly Afriqiyah Airways

	Valid	Frequency	Percent	Valid Percent	Cumulative Percent
	1	92	15.8	25.6	25.6
	2	103	17.6	28.6	54.2
	3	64	11.0	17.8	71.9
	4	22	3.8	6.1	78.1
	5	18	3.1	5.0	83.1
	6	15	2.6	4.2	87.2
	7	2	.3	.6	87.8
	8	23	3.9	6.4	94.2
	9	1	.2	.3	94.4
	10	10	1.7	2.8	97.2
	11	1	.2	.3	97.5
	12	5	.9	1.4	98.9
	14	1	.2	.3	99.2
	16	1	.2	.3	99.4
	20	2	.3	.6	100.0
	Total	360	61.6	100.0	
Missing	System	224	38.4		
Total		584	100.0		

Table 5-9: Whilst travelling with any of the Libyan airlines, can you clearly recall a recent flight when you experienced a problem that you complained about to a member of airline staff during your trip?

valid	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	508	87.0	87.0	87.0
No	76	13.0	13.0	100.0
Total	584	100.0	100.0	

Table 5-10: When you made your complaint, with which airline were you travelling?

	Valid	Frequency	Percent	Valid Percent	Cumulative Percent
	Libyan Airlines	277	47.4	54.5	54.5
	Fly Afriqiyah Airways	231	39.6	45.4	45.4
	Total	508	87.0	100.0	100.0
Missing	System	76	13.0		
Total		584	100.0		

## Factor one: Service Recovery Compensation

Factor one included item 14, which needed to be dropped. The overall reliability coefficient for factor one including three items is .919%. Table 5.11 shows Alpha if item 14 is deleted.

**Table 5-11: Selection of compensation items using corrected item total correlation.**

Compensation items	Stage one	Stage two	
	Alpha	Corrected item total correlation	Alpha if item deleted
11-The airline offered a good discount as part of the solution to my service problem.	.877	.839	.803
12-The airline offered a good solution to my service problem.		.804	.817
13-The solution offered by the airline was acceptable to me.		.809	.815
14-The airline offered a good service fix.		.516	.919

**Notice that the notation (-) means that the item is not included at this stage while grey cells indicate the highest alpha at stage**

The results of deleting items show a good corrected item total correlation in order to improve the value of alpha, (see Table 5.11). For the first stage, the results reveal that when all items are considered in the compensation dimension, the alpha is found to be .877. However, the alpha becomes higher, at .919, when item 14 is removed.

## Factor Two: Service Recovery Speed

Factor two included item 18, which needed to be dropped. The overall reliability coefficient for factor two including three items is .470%. Table 5.12 shows Alpha if item 18 is deleted from factor two.

**Table 5-12 : Selection of speed items using corrected item total correlation and alpha.**

Speed items	Stage one	Stage two		Stage three	
	Alpha	Corrected item total correlation	Alpha if item deleted	Corrected item total correlation	Alpha if item deleted
15-The airline solved my problem and completed the recovery plan as soon as I reported the problem.	.367	.312	.185	.252	.437
16-The airline completed the recovery plan quickly.		.185	.315	.349	.266
17- My problem was solved in one go and I did not need to ask for further help.		.262	.231	.277	.398
18- I was not kept waiting unnecessarily and a solution was found quickly.		.067	.470	-	-

-Notice that the notation - means that the item is not included at this stage while grey cells indicate the highest alpha at stage.

From Table 5.12, we find that for the four items of the speed dimension that alpha is .367, which is remarkably small. As consequence, it was necessary to search for items that may cause this issue. By computing the corrected item-total correlation for the second stage, it can be seen that the correlations of items 16, 17 and 18 with the overall speed dimension was about .067 and .185 and .262, while item one correlated at .312. As a result, by looking at the alpha if item 18 is deleted, we notice that the reliability of the scale (alpha) increases to .470. By repeating the same procedure without item 18 for the third stage, we observe that item 16 no longer appears as an item to delete and that alpha decreases to .266 when item 18 is deleted. At this stage, item 15 shows the lowest correlation, equal to .252, and alpha based on deleting this item is found to be .437; this value is somewhat lower than the .470 which is obtained when item 18 is deleted. Based on these results, item 18 will be excluded from the speed dimension.

### Factor Three: Service Recovery Apology

Factor three included item 22, which needed to be dropped. The overall reliability coefficient for factor two including the four items is .887%. Table 5.13 shows Alpha if item 22 is deleted from factor three.

**Table 5-13: Selection of apology items using corrected item total correlation and alpha.**

Apology items	Stage one	Stage two		Stage three	
	Alpha	Corrected item total correlation	Alpha if item deleted	Corrected item total correlation	Alpha if item deleted
19-The airline said they were sorry for any inconvenience immediately.	.815	.752	.709	.746	.869
20-The airline wrote an appropriate apology letter to me quickly.		.727	.723	.809	.812
21-The airline gave some appropriate compensation as an apology.		.738	.719	.783	.836
22-The airline gave me additional benefits as to kens of apology during the flight.		.360	.887	–	–

**-Means that the item is not included at this stage while grey cells indicate the highest alpha at stage.**

For the first stage of item assessment and in terms of the four items of the apology dimension, we observe from Table 5.13 that alpha is .815, which is very good. On moving to the second stage, observing the corrected item-total correlation for the second stage, we can spot that the correlations of items 22, the overall apology dimension, is .360, while the other items provide a good correlation. By removing item four; we notice that the reliability of the scale (alpha) increases to be .887. For third stage, by repeating the same procedure without item 22, we observe that alpha decreases if any one of these items is deleted. Therefore, the apology dimension will be established by items: 19, 20 and 21.

## Factor Four: Distributive Justice

Factor four included item 25, which had to be dropped. The overall reliability coefficient for factor four including the five items is .882%. Table 5.14 shows Alpha if items 25 and 27 are deleted from factor four.

**Table 5-14: Selection of distributive justice items using corrected item total correlation and alpha**

Distributive justice items	Stage one	Stage two		Stage three	
	Alpha	Corrected item total correlation	Alpha if item deleted	Corrected item total correlation	Alpha if item deleted
23- It took me too long to get airline employees to resolve my problem.	.206	.253	-.007	.599	.004
24- The way my problem was resolved reflected the price I paid for the flight.		.407	-.154	.634	.011
25- In resolving the problem the airline gave me what I needed.		-.127	.385	-.354	.882
26- To get my problem solved involved a lot of effort from me.		.309	.055	.581	.054
27-I was happy with the outcome.		-.186	.463	-	-

**-Means that the item is not included at this stage while grey cells indicate the highest alpha at stage.**

From Table 5.14, we discover that for the five items of distributive justice dimension alpha is very weak, which is .206; this value does not satisfy the appropriate level of measuring distributive justice. As a consequence, it is necessary to identify the items leading to this issue. By computing the corrected item-total correlation for the second stage, we can discover that the correlations of items 25 and 27 with the overall distributive justice dimension are about -.186 and -.127, while item 23, 24 and 26 correlate at .253, .407 and .309 which are slightly better, irrespective of their values. At this stage, if item 27 is deleted, we notice that alpha will increase to be .463. Moving to the third stage, we observe that alpha increase dramatically to .882 when item 25 is eliminated from the dimension. As a result, it is better to rely on items 23, 24 and 26 to build the distributive justice dimension.

## Factor Five: Procedural Justice

Factor five included item 35, which needed to be dropped. The overall reliability coefficient for factor five, including all eight items is .888%. Table 5.15 shows Alpha if item 35 is deleted from factor five.

**Table 5-15: Selection of procedural justice items using corrected item total correlation and alpha**

Procedural justice items	Stage one	Stage two		Stage three	
	Alpha	Corrected item total correlation	Alpha if item deleted	Corrected item total correlation	Alpha if item deleted
28-The airline procedures were fair.	.888	.811	.858	.829	.903
29- The airline procedures were sensible.		.773	.862	.787	.908
30-The airline procedures were clear.		.781	.861	.789	.908
31-The airline procedures were streamlined.		.831	.856	.823	.903
32-The airline procedures did what I expected.		.805	.859	.813	.905
33-The procedures put the customer first.		.636	.876	.629	.924
34-The procedures made me feel important.		.607	.879	.629	.923
35-The procedures made me angry.		.013	.923	-	-

-Means that the item is not included at this stage while grey cells indicate the highest alpha at stage.

For procedural justice based on the all items, the value of alpha is found to be .888, which is an indication of a good measure, (see Table 5.15). However, from the second stage, we notice that the likelihood of raising alpha is high when item 35, which shows low correlation is removed, in other words the value of alpha becomes .923. After deleting item 35, the third stage does not show any more improvement in alpha values, and hence more deletion is not considered necessary.

## Factor Six: Interactional Justice

Factor six included eight items, none of which needed to be dropped. The overall reliability coefficient for factor six, including all eight items, is .919%.

**Table 5-16: Selection of interactional justice items using corrected item total correlation and alpha.**

Interactional justice items	Stage one	Stage two		Stage three	
	Alpha	Corrected item total correlation	Alpha if item deleted	Corrected item total correlation	Alpha if item deleted
36-Employees were always willing to help you.	.918	.833	.898		
37-Employees were never too busy to respond to your request or complaint.		.604	.917		
38. The behaviour of employees gave you confidence.		.636	.915		
39-Employees had the knowledge to answer your questions.		.798	.902		
40- The employees gave you individual attention.		.770	.904		
41-The employees put the proper effort into resolving my problem		.794	.902		
42-The employees' communications with me were appropriate.		.799	.901		
43-The employees gave me the courtesy I was due.		.596	.919		

-Means that the item is not included at this stage while grey cells indicate the highest alpha at stage.

## Factor Seven: Customers Satisfaction

Factor seven included twelve items of which four needed to be dropped. The overall reliability coefficient for factor seven is .827%. Table 5.17 shows Alpha if item 56, 49, 53 and 57 are deleted from factor seven.

**Table 5-17: Selection of satisfaction items using corrected item total correlation and alpha.**

Satisfaction items	Stage one	Stage two		Stage three		Stage four		Stage five		Stage six	
	Alpha	Corrected item total correlation	Alpha if item deleted	Corrected item total correlation	Alpha if item deleted	Corrected item total correlation	Alpha if item deleted	Corrected item total correlation	Alpha if item deleted	Corrected item total correlation	Alpha if item deleted
46- The airline online booking was easy. (If used).	.586	.597	.502	.669	.572	.714	.682	.711	.748	.753	.783
47- Waiting time for check-in was unacceptable.		.371	.536	.447	.601	.559	.696	.606	.758	.622	.797
48- The airline flight boarding was efficient.		.369	.549	.303	.633	.247	.741	.198	.805	.207	.843
49-The flight departed and arrived at the promised times.		-.119	.653	-.243	.743	-	-	-	-	-	-
50- The airline provided good food and beverages.		.615	.493	.662	.568	.705	.680	.703	.748	.748	.782
51- Special meals are available. (If needed).		.434	.519	.496	.589	.551	.697	.545	.767	.639	.794
52-The plane was comfortable.		.330	.545	.423	.606	.481	.709	.509	.772	.588	.806
53-The plane was clean.		.143	.588	.029	.684	-.075	.795	-	-	-	-
54- The airline left a negative impression.		.328	.547	.411	.610	.479	.710	.518	.771	.722	.822
55-I would not recommend this airline to my family and friends.		.329	.547	.416	.609	.494	.708	.539	.768	.708	.821
56-Next time I fly, I will change to another airline company.		.112	.596	.151	.662	.117	.769	.135	.827	-	-
57-The service I received was good.		-.153	.652	-	-	-	-	-	-	-	-

-Means that the item is not included at this stage while grey cells indicate the highest alpha at stage.

In the satisfaction dimension, it is very obvious from Table 5.17 that a number of items need to be deleted so that an acceptable improvement in alpha can be achieved. In other words,

the analysis required six stages of item elimination. At the first stage, the value of alpha is .586, which is not a good indication. By looking at the second stage, we observe that the item 57 shows very low correlation, and if we remove it from the dimension, then alpha will increase to .652. Based on this result item 57 is removed and the process of elimination continues for further stages. Items 49, 53, 56 and 57 correlate weakly with the satisfaction dimension in terms of stages three, four, five and six, respectively. After removing these items, alpha increases gradually to .843. According to these results, only eight items were retained as measurements of satisfaction dimension; these items are 46, 47, 48, 50, 51, 52, 54, and 55.

**Table 5-18: Alpha based on undeleted and deleted items for questionnaire dimensions.**

<b>Dimension</b>	<b>Overall Alpha</b>	<b>Alpha without weak items and dimensions</b>
<b>Service recovery</b>	.867	.903
<b>Justice</b>	.865	.854
<b>Satisfaction</b>	.586	.827
<b>Overall dimensions</b>	.908	.867

On the basis of Table 5.18, we make a comparison between the two values of Alpha resulting from a dimension based on all items, and the same dimension but without irrelevant items. The table shows that the reliability of the service recovery dimension will improve by 3.6% when irrelevant items are excluded. For the satisfaction dimension, a 24.1% improvement is achieved after removing items determined to weaken this dimension. In terms of justice, deleting items thought to be unimportant will not lead to an increase in reliability. Overall, the reliability based on combining all the dimensions will be reduced to 86.7% if undesirable items are deleted rather than 90.8% if all items included. In fact, we conclude that it is better to rely on each dimension separately in terms of removing weak items, since the interest is to measure each dimension with high accuracy.

## Factor Analysis for All Items

Factor analysis is applied to the dimensions of the study in order to discover how a set of latent variables will represent each dimension.

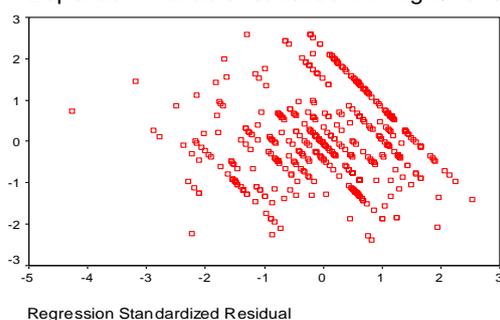
One important step towards factor analysis is to justify the sampling adequacy of the surveyed group. Applying a Kaiser Meyer-Olkin (KMO) test gave a score of .919, which leads to strong justification for applying factor analysis. The following results are based on using rotation procedure as the initial results reveal that factor loading seems to be not well distinguishable. After rotation, eight factors are extracted, by where the highest variance based on the first factor is 8.520, whereas the lowest variance based on the eighth factor is 1.494. The total variation explained by the resulting factors is 70.49%.

**Table 5-19: Total variation using factor analysis for the all items.**

Factor	Total variance explained		
	Total	% of variance	Cumulative
Service recovery compensation	8.520	18.933	18.933
Service recovery Speed	5.085	11.301	30.233
Service recovery Apology	4.421	9.823	40.057
Distributive justice	4.328	9.618	49.675
Procedural justice	3.559	7.909	57.584
Interactional Justice	2.284	5.075	62.659
Overall justice	2.028	4.507	67.166
Customer satisfactions	1.494	3.320	70.486

Scatterplot

Dependent Variable: satisfied with flight/travel



**Table 5-20: Factor loadings for the all items using rotation procedure.**

Dimension		item	Factor loading							
			1	2	3	4	5	6	7	8
Service recovery	Compensation	11	.542	.119	-.182	.609	-.092	-.159	.099	.002
		12	.616	.072	-.490	.361	.048	-.122	.116	-.129
		13	.623	.082	-.428	.387	.028	-.136	.140	-.051
		14	.273	.225	.601	-.0896	.119	.001	-.049	.189
	Speed	15	.147	.155	-.171	.252	.459	.060	.042	.139
		16	.012	.166	.116	-.064	.304	.189	.027	.515
		17	.108	.139	-.189	.097	.283	.273	.061	.523
		18	.622	.142	-.326	.508	-.101	-.051	.063	-.155
	Apology	19	.431	.126	-.031	.696	-.067	-.072	.137	-.114
		20	.407	.168	.117	.686	-.153	.167	.101	-.037
		21	.392	.122	.155	.724	-.123	.099	.077	-.066
		22	.227	.046	-.204	.283	.222	-.099	.702	.127
Justice	Distributive Justice	23	-.252	-.059	-.138	.752	.129	.167	.144	.126
		24	-.150	-.081	.057	.838	.144	.110	-.142	-.094
		25	.397	.147	.110	-.296	.0563	-.045	.649	-.093
		26	-.117	-.048	-.063	.810	.071	.236	-.229	.069
		27	.673	.147	-.192	.468	-.190	-.076	.154	-.135
	Procedural Justice	28	.211	.850	-.047	.184	.818	.066	-.044	-.039
		29	.160	.839	-.016	.111	.061	-.088	.010	-.044
		30	.151	.854	-.063	-.089	.030	.071	.001	.073
		31	.174	.864	-.038	.069	.084	.044	-.005	.080
		32	.157	.848	-.080	.046	.112	-.014	.033	.009
		33	.043	.644	.063	.046	.216	-.134	.375	.258
		34	.138	.642	-.013	.317	.071	.088	.116	.081
		35	-.028	-.079	.097	-.051	-.092	-.169	.058	.536
	Interactional Justice	36	.843	.171	-.088	.083	.015	-.076	.121	.059
		37	.650	.082	.147	.219	-.216	.021	-.035	.256
		38	.721	.091	-.302	.064	.034	-.025	-.128	-.117
		39	.796	.189	-.189	.182	-.044	.040	.040	.025
		40	.776	.139	-.052	.199	-.055	.047	.063	.073
		41	.819	.146	-.175	.141	-.017	-.020	.039	-.062
		42	.767	.179	.008	.302	-.108	-.096	.128	.059
43	.593	.128	.047	.051	.104	-.280	.499	.247		
Satisfaction	45	-.135	.172	.243	-.185	.748	.163	.119	.028	
	46	-.232	-.024	.683	.082	.426	.089	.068	-.015	
	47	.335	.097	.030	.230	.579	-.024	-.238	-.167	
	48	.645	.230	-.369	.314	-.111	.013	.188	.129	
	49	-.183	.149	.235	-.101	.749	.109	.038	.074	
	50	-.252	.083	.190	-.191	.739	-.129	.265	.140	
	51	-.221	.075	.259	-.267	.603	-.117	.402	.145	
	52	.384	.116	-.199	.310	.240	-.164	-.225	.375	
	53	-.227	-.034	.475	.080	.110	.657	-.096	.017	
	54	-.225	.012	.287	-.069	.205	.767	-.161	-.024	
	55	.114	.105	.107	.069	-.143	.798	.023	.068	
	56	.559	.133	-.225	.438	-.048	-.269	-.053	.147	

-Grey cells show items with their corresponding factors using highest factor loading.

In terms of extracted factors, we observe for the service recovery dimension that the first three items of compensation belong to the first factor while the fourth is allocated to the third factor. Speed items are distributed to four factors. The first three items of apology are

assigned to the fourth factors whereas the fourth is allocated to the seventh factor. Regarding justice dimension, we find for distributive justice that items 23, 24 and 26 belong to the fourth factor loading, whereas items 25 and 27 are allocated to the seventh and first factor respectively. The first seven items of procedural justice belong to the second factor, but item number eight is assigned to the eighth factor. The first seven items of Interactional Justice belong to the second factor, but the last item belongs to the eighth factor. For satisfaction dimension, the majority of items are divided between the fifth and sixth factor. For fifth factor, we notice that item one, three, five, sixth and seventh belong to the fifth factor, whereas the items from nine to eleven go to sixth factor. Generally, the resulting combination of these items is similar to that based on item deletion using alpha.

### Service without Weak Items

In connection with the reliability of the results, it is necessary to consider how the two sub-dimensions of service recovery will be represented using factor analysis, when the weak items have already been removed using Alpha. To justify factor analysis, KMO is found to be .821, which is a good indicated for applying factor analysis. As some items showed undistinguished loading factors, factors to be extracted will be identified using a rotation procedure. Therefore, we obtain two factors explaining 84.9% of total variation which is a very good indication; see Table 5.21.

**Table 5-21: Total variation using factor analysis for service dimension without weak items**

Factor	Total variance explained		
	Total	% of variance	Cumulative
Compensation	2.575	42.913	42.913
Apology	2.522	42.041	84.954

**Table 5-22: Factor loadings for two sub-dimension of service recovery without weak item using rotation procedure**

Dimension		Item	Factor	
			1	2
Service recovery	Compensation	11	.751	.466
		12	.941	.212
		13	.926	.245
	Apology	19	.415	.775
		20	.208	.907
		21	.231	.882

By using only strong items measuring service recovery, the resulting factors given in Table 5.22 show that the all items of compensation belong to factor one with high values of loading factors. Also, the items of apology are represented by the second factor two with well corresponding loading values. As a result, the selected items seem to be appropriate measurements of the two dimensions' of quality.

### Justice without Weak Items

For the justice dimension, three factors are extracted, each which of represent a sub-dimension. These factors show 69.47% of total variation as shown in Table 5.23. Based on loading factor, the items of distributive justice dimension are assigned to the third factor with distinct loading factors. Procedural justice is represented by the second factor. Finally, the first factor represents Interactional justice. It noted that the resulting factor loading is a very distinct for the three factors indicating that the suggested dimensions are reliable for measuring justice.

**Table 5-23: Total variation using factor analysis for justice dimension without weak items**

Factor	Total variance explained		
	Total	% of variance	Cumulative
Distributive Justice	5.047	28.039	28.039
Procedural Justice	4.838	26.876	54.915
Interactional Justice	2.619	14.552	69.467

**Table 5-24: Factor loadings for justice dimension without weak items using rotation procedure**

Dimension		item	Factor		
			1	2	3
Justice	Distributive Justice	23	-.226	-.025	.832
		24	-.123	-.061	.894
		26	-.124	-.048	.907
	Procedural Justice	28	.207	.858	-.049
		29	.149	.838	-.057
		30	.117	.846	-.067
		31	.156	.873	-.032
		32	.129	.860	-.095
		33	.094	.718	.016
		34	.240	.675	.088
	Interactional Justice	36	.843	.182	-.164
		37	.730	.083	.125
		38	.661	.086	-.343
		39	.805	.199	-.216
		40	.815	.148	-.116
41		.809	.148	-.238	
	42	.837	.188	-.083	
	43	.655	.195	-.028	

### Factors Based on Selected Items

The following is the result of factor analysis for all the dimensions after removing weak items. Through this analysis, it is possible to discover whether some dimensions have common factors. Moreover, it is possible to know if items of particular dimension can be clustered in two or more factors. Notice that the following results will be used in multiple linear regressions.

**Table 5-25: Total variation using factor analysis for the selected items.**

Factor	Total variance explained		
	Total	% of variance	Cumulative
Compensation	6.122	21.111	21.111
Apology	4.895	16.879	37.991
Distributive	3.426	11.813	49.804
Procedural	3.164	10.910	60.714
Interactional	2.986	10.296	71.010
Satisfaction	1.248	4.303	75.312

**Table 5-26: Factor loadings for the selected items using rotation procedure.**

Dimension		Item	Factor loading					
			1	2	3	4	5	6
Service recovery	Compensation	11	.552					
		12	.578					
		13	.594					
		14						
	Speed	15						
		16						
		17						
		18						
	Apology	19					.757	
		20					.779	
21						.796		
22								
Justice	Distributive Justice	23				.759		
		24				.861		
		25						
		26				.907		
		27						
	Procedural Justice	28		.864				
		29		.840				
		30		.862				
		31		.874				
		32		.856				
		33		.627				
		34		.645				
		35						
	Interactional Justice	36	.834					
		37	.692					
38		.641						
39		.755						
40		.757						
41		.763						
42		.752						
43		.737						
Satisfaction	44			.778				
	45			.683				
	46						.670	
	47							
	48			.778				
	49			.880				
	50			.830				
	51							
	52							
	53							
	54							
	55							
	56							

-Grey cells show items with their corresponding factors using highest factor loading.

The computed value of KMO is found to be .908. Five factors with Eigen values greater than one, explaining 75.13% of variation, are extracted. Table 5-26 presents the selected items

and corresponding factor loading. In interpreting the rotated factor pattern, any item is said to load on a given factor if the factor loading is arbitrarily considered as .45 or more. Using these criteria, we find that the items of each dimension are loaded to one factor, except one item of satisfaction which is loaded to factor six. Notice that compensation and Interactional justice dimensions are loaded under factor one.

## Correlation Result

In order to fit a regression model that explains satisfaction in terms of the independent variables (Service recovery Compensation, Service recovery Apology, Distributive Justice, Procedural Justice and Interactional Justice) it is essential to look at the degree of association (correlation) between satisfaction and the independent variables. A correlation matrix for Pearson's correlation coefficients between each of the variables is constructed. As a result, it was expected that there would be an issue concerning multicollinearity between some predictor variables.

**Table 5-27: correlation matrix for the all study dimension.**

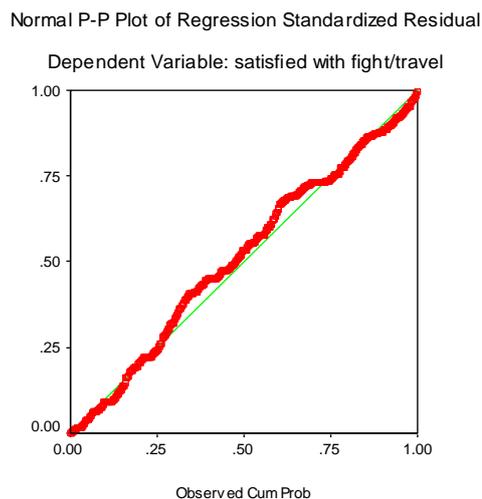
Correlation	Satisfied with fight/travel	Service recovery compensation	Service recovery Apology	Distributive Justice	Procedural Justice	Interactional Justice
Satisfied with fight/travel	1.000	.546	.209	.390	.356	.149
p-value	.	.000	.000	.000	.004	.000
Service recovery compensation		1.000	.345	.164	.437	.347
p-value			.000	.000	.000	.000
Service recovery Apology			1.000	.352	.330	.638
p-value				.017	.000	.000
Distributive Justice				1.000	.140	.221
p-value					.003	.000
Procedural Justice					1.000	.376
p-value						.000
Interactional Justice						1.000
p-value						

Table 5.27 shows that there is a significant correlation between independent variables, although the correlation is not strong. When looking at the association between variables and satisfaction, there is a positive association with compensation, which is .546. The results

confirm that correlations between satisfaction and independent variables are highly significant. In terms of service, service recovery apology supplies the lowest positive correlation with satisfaction which is .209, but by looking at the p-value, the correlation is seen is very highly significant. In terms of correlation between the independent variables, interactional justice shows the highest association with the recovery dimensions, with a correlation of .347 with Service recovery compensation, whereas it is .638 with Service recovery Apology, (notice, both the correlations are very highly significant). Distributive Justice also shows a positive correlation with Service recovery compensation, which is .437 with a p-value =.000. These results indicate a strong relationship between the elements of service recovery and the dimensions of justice, but a particularly important relationship between Interactional justice and compensation, suggesting that customers associated a high perception of interactional justice with an offer of compensation.

## Regression Results

Before demonstrating the results of regression analysis, there is a need to check the assumption of the residuals normality. From Figure 5.1, it is noted that the majority of observations are on or near the line, which indicates acceptance the assumption of normality approximation.



**Figure 5-1: P-P plot for the residuals of fitted models based on dimensions.**

By following the method of variables forward selection, it can be seen from table 5.28 that our linear model fitted by regression analysis is very highly significant, where by  $F = 60.76$

and p-value=.000. Regarding multiple correlation, R is .647. Also, form coefficient determination,  $R^2$ , which is .419, indicates that the selected variables explain about 41.9% of variation in the satisfaction dimension. This variation explanation is a poor predication, which means that it may be necessary to think about other variables that can increase the predication accuracy.

**Table 5-28: Results of regression analysis for satisfaction dimension using dimensions predictor Variables.**

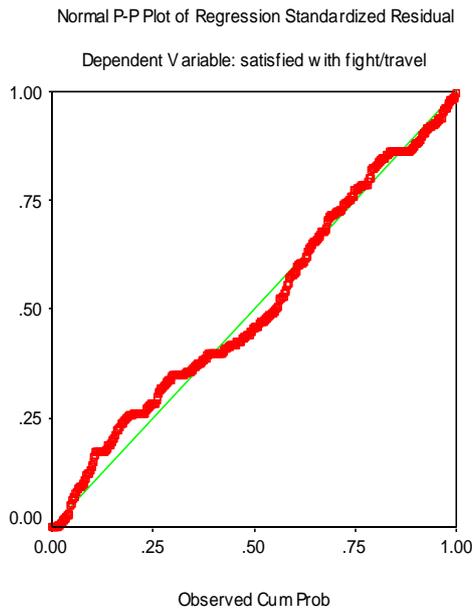
<b>F statistic based on ANOVA</b>	<b>p-value</b>	<b>R</b>	<b>R<sup>2</sup></b>
204.275	.000	.647	.419

**Table 5-29: Estimated coefficients of predictor variables (dimensions).**

<b>Model</b>	<b>Coefficients</b>	<b>t statistic</b>	<b>p-value</b>	<b>VIF</b>
<b>(Constant)</b>	1.444	11.808	.000	
<b>Distributive Justice</b>	.352	11.907	.000	1.307
<b>Service recovery Apology</b>	.265	8.964	.000	1.062
<b>Procedural Justice</b>	9.689E-02	3.966	.000	1.332
<b>Interactional Justice</b>	-7.274E-02	-3.765	.000	1.257

The estimated effects of the selected dimensions with their corresponding variation inflation factor (VIF) are provided in Table 5.29. From the table, it is observed that all values of VIF are small which means that the issue of multicollinearity is not serious and as a result the estimated coefficients are reliable. Using the forward selection method, distributive justice is firstly selected and then followed by service recovery apology, procedural justice and interactional justice respectively. All the selected dimensions show a very highly significant effect on satisfaction, except interactional justice clues which shows a significant effect. On the basis of these results, we can say that the contribution of service recovery compensation will not be important for predicating satisfaction when other important variables are already in the model. In terms of further investigation towards finding the most important effective predictors for predicting satisfaction, the items representing service recovery and justice are used to fit another regression model. By this approach, it will be easy to look at the effect of each item individually so that any item affecting satisfaction can clearly be seen. As the

number of items is fairly large, it is better to retain the best subset of items which can contribute significantly to the fitted model. Figure 5.2 indicates to the validity of normality assumption. By forward selection procedure, it is observed from Table 5.30 that the F statistic obtained from the final model is very highly significant, with the selected model consisting of eleven items. Based on the total of variation, which is 40.8%, the ability of these items to predict satisfaction is not high.



**Figure 5-2: P-P plot for the residuals of fitted models based on item.**

**Table 5-30: Results of regression analysis for satisfaction dimension using items as predictor variables.**

<b>F statistic based on ANOVA</b>	<b>p-value</b>	<b>R</b>	<b>R<sup>2</sup></b>
29.55	.000	0.639	0.408

According to Table 5.30, the issue of dependency among the selected items is not present due to the low values of VIF. The selected predictors are: three items from compensation, two items from distributive justice, four from procedural justice and two from interactional justice, see Table 5.31. In terms of the Compensation dimension, a good discount as part of the solution to customer service problems offered by the airline can result in satisfaction with a

flight. Also, a good solution to customer service problems offered by the airline and some appropriate compensation as an apology show a positive effect on satisfaction.

**Table 5-31: Estimated coefficients of predictor variables (items).**

Model	Coefficients	t statistic	p-value	VIF
(Constant)	3.297	21.124	.000	
It took me too long to get airline employees to resolve my problem. c	-.128	-5.525	.000	2.131
The procedures put the customer first. d	.106	4.744	.000	1.874
Employees were never too busy to respond to your request or complaint. e	.111	5.414	.000	1.585
The airline offered a good discount as part of the solution to my service problem. a	.112	4.107	.000	3.004
The way my problem was resolved reflected the price I paid for the flight. c	.110	4.311	.000	2.022
The behaviour of employees gave you confidence. e	.045	2.247	.025	1.807
The airline procedures were streamlined. d	.087	3.060	.002	2.740
The airline procedures were sensible. d	.062	2.369	.018	2.414
The airline offered a good solution to my service problem. a	.066	2.378	.018	3.297
The procedures made me feel important. d	.067	2.589	.010	1.856
The airline gave some appropriate compensation as an apology. a	.052	2.349	.019	1.864

**a: compensation, b: Apology, c: Distributive Justice, d: Procedural Justice, e: Interactional Justice**

For the distributive justice dimension, too long a time to resolve a customer problem leads to dissatisfaction with the airline companies. The way of resolving the problem to reflect the price paid showed a positive effect on satisfaction.

The items of the procedural justice dimension (the procedures put the customer first; the airline procedures were streamlined and the procedures made customer feel important) lead to significant satisfaction with a flight.

The items of the interactional justice dimension that had the greatest effect were: employees were never too busy to respond to your request or complaint, and the behaviour of employees gave you confidence, these also had significant impact on flight satisfaction.

### **Contextual Implications of the Findings**

In terms of conclusions which can usefully be drawn from the analysis of the data made in this chapter, the following points seem most relevant. At this point, while establishing a working basis for the collection of the study's data, the researcher made contact with officials from the two airlines and Tripoli international airport. From these discussions it became clear that neither airline was collecting any data of its own on the effectiveness of its service recovery efforts, and that they had very little information on the proportion of their customers who flew with them frequently or were satisfied with their service. Afriquia had recently instituted a basic Frequent Flyer programme, but this was at an early stage of development. The airlines therefore had no clear customer retention strategy based on accurate data about service recovery efforts, and it is hoped that this study can form the basis for future research in this area by the companies and the airport authorities.

Following the data collection process and the data analysis, and based on the relationships established between efforts at service recovery and perceptions of justice, the following observations can be made: for the distributive justice dimension, too long a time spent resolving customer problems led to dissatisfaction with the airline companies. This indicates a need for faster and more efficient processes within the Libyan airlines surveyed for dealing with customer complaints. Furthermore, and also connected to distributive justice, customers made an association between the way a problem was resolved and the price they paid for their ticket, and showed a positive effect on satisfaction when the service recovery effort they were offered was deemed to be commensurate with their financial outlay. These findings with regard to the importance of distributive justice on customer satisfaction accord with those of Nikbin et al. (2011) who identified a strong positive impact on repurchase intentions for this element of justice.

Previous studies have found perceptions of procedural justice to be an important influence on customer satisfaction (e.g. Smith, 1998; Severt, 2002; Kim et al., 2009; Lin et al., 2011). In this study, within the items of the procedural justice dimension three elements were found to be most important: procedures that put the customer first; airline procedures that were

streamlined; and those procedures that made customers feel important; all of these led to significant satisfaction with a flight. These results suggest that the Libyan airlines should concentrate on developing customer-focused service systems, which deal with service problems in a timely and efficient manner, while enabling customers to feel they are being treated as an individual with particular needs. In order to achieve these aims it is vital that the airlines surveyed begin collecting their own data on the effect of their service recovery efforts; even if it is initially based only on the complaints they receive from dissatisfied customers.

In the dimension of interactional justice, the key elements that stood out were all connected with the behaviour of front-line staff operating face-to-face or in direct contact with customers. Smith (1998) notes that from his research and previous studies it is noticeable that in the memory of customers, rude or inefficient treatment by a front-line employee often remains an effect on creating dissatisfaction. Moreover, Severt (2002) suggests that time and expense put into providing front-line employees with skills and qualities such as politeness, honesty, effort, empathy, and good communication skills can be repaid by positive perceptions of interactional justice, a view previously proposed by Parasuraman, Zeithmal and Berry (2003). In terms of the findings of this study with regard to the items of the interactional justice dimension, two elements stood out as being positive contributors to customer perceptions, which were: employees were never too busy to respond to a request or complaint; and the behaviour of employees gave customers confidence. These also had significant impact on flight satisfaction and these findings indicate that the behaviour of customer-facing employees had a significant influence on perceptions of justice and hence on satisfaction, and that investment in the training and empowerment of such employees could have a positive impact on overall customer satisfaction in the future. It can be concluded that positive customer perceptions towards items in the service recovery areas of compensation and apology had a positive contribution to feelings of justice and to the outcome of overall customer satisfaction, suggesting that a service failure need not be regarded as an entirely negative outcome, but rather as an opportunity to regain trust and enjoy all the benefits accruing from that state.

## **Chapter 6 Contribution, limitations and conclusion**

### **Introduction**

This chapter discusses the results of the research and attempts to draw conclusions from the respondents' participation in this study (aviation customers). The chapter provides discussion of the responses to the questionnaire (responses from customers) in the context of a wider appreciation of the relationships between service recovery, justice and satisfaction derived from the literature. The discussion focuses on analysis of three separate factors: service recovery; justice; and the result of the relationship between these two on customer satisfaction as an outcome.

### **Overview of the Research**

An important requirement of administration and marketing is to change the focus from the concept of service recovery to a broader and more comprehensive concept of customer satisfaction. This requires the service provider to restore a negative situation of service with a service recovery effort perceived to meet the customer's expectations of justice. Was result compensation commensurate with the injury done to the customer would be offered. An understanding of how his porous affects both the sense of justice and customer satisfaction in general need to from part of a range of appropriate techniques for marketing management.

Previous studies (e.g. Kim et al., 2009) have been more focused on the recovery of service and not on issues such as compensation and apology or the administration of justice (distributive, procedural, and interactional justice). This previous research, moreover, has tended to focus on the restrictions that face workers in the management of service recovery and customer satisfaction. There has also been a lack of interest by researchers in the integration of the most important elements of service recovery that affect justice.

One of the principal contributions of this study has been to develop a model that illustrates how the perceptions of efforts aimed at the restoration of a service following service failure can meet the requirements of management and marketing in terms of achieving customer satisfaction and thus possibly improving the likelihood of recommendation and repurchase. In order to determine the degree to which these contributions have been achieved in this study,

this discussion is divided into a consideration of four main parts: the results and their implications will be discussed in the first section. Secondly, there is discussion of the theoretical contributions of the study. This is followed by the study's limitations and future directions for research, while a conclusion of the results of the study is presented in the last section.

Services companies are able to take advantage of factors that can create competitive advantage for them (Riedel, 1992). However, the desire of companies to explore these factors requires experimental investigation of how customers in different countries (or with different orientations within a particular country) evaluate their services (Winsted, 1997), and the knowledge and expertise necessary to achieve this is often lacking. This study has attempted to gain extensive knowledge of the factors that affect customer perceptions of the value of fair distributive, interactional and procedural justice in the pursuit of efforts to overcome service failures, and their interrelation in terms of satisfaction with the recovery of service problems.

## **Result and implications**

In order to give a context for this discussion, it is useful to repeat the research questions formulated in chapter one:

- 1-What are the effects of attempts at service recovery on customers' perceptions of justice and overall satisfaction within two Libyan airlines?
- 2-What are the implications of service recovery efforts for the Libyan airlines and for service businesses more generally?

The results of the study indicate that levels of satisfaction among customers who had suffered service failures were clearly affected by the perceptions of these customers with regard to the justice of efforts at service recovery, especially in terms of the impact of the interaction between the actions of the company and the nature of the service problem, or failure. In other words, the impact of service recovery methods varies depending on customers' expectations and perceptions of recovery efforts, and in accordance with the orientation of each individual. The implications of this general conclusion are simply that the companies have a better chance to implement recovery procedures more conveniently (and thus generate customer satisfaction) if employees are sensitive to the needs of individual customers. In the literature

review a table (table 2.1) was presented giving a visual representation of recent research findings with regard to the interrelationships between service recovery, justice and customer satisfaction. The table is repeated below with the findings of this study added to illustrate how they form part of an emerging pattern which seems to show a highly influential link between compensation and distributive justice on the one hand, and distributive justice and customer satisfaction on the other. Allowing for differences in methodology and terminology, the studies, taken together, help to contextualize the discussion of this study's findings.

**Table 6-1 : An overview of research finding with regard to the most influential relationships between service recovery, justice and customer satisfaction**

The Author	Delivery context	Service recovery	Dimension of Justice	Customer Satisfaction
Casado-Díaz et al., (2006)	The banking industry in Spain		Distributive justice	Overall satisfaction WOM
Yang and Peng, (2007)	Automobile industry in Taiwan	Compensation → Speed → Apology → Initiation	Distributive justice → Procedural justice → Interactional justice →	Customer satisfaction ↓ Loyalty
Mattila et al.,(2010)	Airline and hospitality industries in the USA	Compensation → Compensation and recovery mode →	Distributive justice → Interactional justice →	Repurchase intention Repurchase intention
Nikbin et al.,(2011)	The airline industry in Iran		Distributive justice → Interactional justice →	Repurchase intention Overall satisfaction WOM
Lin et al.,(2011)	An online retailer in Taiwan		Distributive justice → Interactional justice → Distributive justice ↔ Procedural justice → Distributive justice ↔ Interactional justice →	Repurchase intention Positive WOM Overall satisfaction WOM Repurchase intention Overall satisfaction WOM Repurchase intention
The current study (2012)	Airline Industry in Libya	Compensation → Apology →	Distributive justice → Procedural justice → Interactional justice →	Customer satisfaction

In terms of their relationship to this research, the studies that it most closely resembles are those of Yang and Peng (2007) and Mattila et al. (2010). Mattila et al. conducted their study

partly about the airline industry, but in a highly developed economy, and using an experimental methodology based on respondent reactions to a scenario, acknowledging that customer reactions might be different in the real world. Unlike this study, they did not collect data from actual customers who experienced service recovery situations. The research of Yang and Peng is the only other study found that attempts to link the three components of service recovery, justice and customer satisfaction, but in their case the causal relationships between the elements of service recovery and the dimensions of justice are derived directly from the work of Smith, Bolton and Wager (1999) and although the strength of these relationships is tested, their existence and direction are assumed. Their study is more concerned to establish the dimension of justice that has the greatest effect on customer satisfaction, and thereby on loyalty. Moreover, the sample of Yang and Peng's study included only customers who had registered a complaint of failure with their service providers, and their context (Taiwan, the auto industry) was very different from the Arab, Islamic context in which this study was conducted.

## **Discussion of the Questionnaire Results**

### **The service recovery factors; compensation, apology**

The data analysis undertaken and presented in chapter 5 demonstrates that there was a statistically significant relationship between perceptions of justice and service recovery efforts, and that this contributed to determining whether customers had a positive or negative relationship with the service companies studied, in this case airlines. Indeed, as the modified model (figure 6.2) demonstrates, the findings indicate that compensation as an element of service recovery had an effect on all three dimensions of justice, making it the most statistically significant influence on customer perceptions. In this respect the study's findings have some relationship with those of Mattila et al. (2010), who found strong associative links between compensation on the one hand, and both distributive and interactional justice on the other. Mattila et al. also stress the importance of matching the recovery mode of a service recovery effort to the way in which the service was originally delivered: so, for example, if a service is delivered online, that is how the service recovery effort should be delivered.

This finding has some implication for the Libyan airline as their service delivery channels become more complex with the introduction of new technology such as online check-in

facilities. What the researcher's observations revealed during the field research, especially from conversations with employees of the airlines, was that service recovery was a reactive effort by these airlines, initiated in response to customer complaints. Therefore, online service provision channels have the potential both to increase the ways customers can access the airlines services, and allow the airlines to provide a forum where customers can air their complaints and seen as a means of delivering complaints directly to service staff, as well as giving the airlines a means of more accurately recording the efficiency of its services. Essentially complaint finding concludes that matching service recovery efforts such as compensation and apology to the appropriate delivery channel creates a perception of fairness. Compensation as an element of service recovery is usually associated with the dimension of distributive justice, but in this study it was also found to influence perceptions of interactional and procedural justice, as illustrated in the study's modified model (figure 6.2). However, Matilla et als'. Study, while including the same components as the present study, was not conducted in a developing country, and its results, although interesting for their methodological similarity, are not directly comparable. Nikbin's (2011) study refers to the airline industry in a developing country but fails to include elements of service recovery, and the same is true for the studies of Casado-Díaz et al., (2006) and Lin et al. (2011). The present study is therefore, to the best of the researcher's knowledge, the first to investigate the full relationship of service recovery, justice and satisfaction in a developing economy context.

Because customer satisfaction has such a significant influence on a customer's decision to repurchase from the same provider, or choose a different provider in the future, it is vitally important that a business such as an airline is aware of levels of customer satisfaction and is able to implement their recovery strategy immediately. It is also possible that a customer who is repeatedly not satisfied with the service in the company will talk negatively about the business, and damage the image of the company with other customers, in addition to the high probability that they will not repurchase or purchase from a competitor in future. In this context, the study's findings reveal that although the Libyan airlines were achieving reasonable levels of overall satisfaction, there were warning signs within the data of which the airlines should be aware. For example, it should be noted that following factor analysis, item 55 of the questionnaire concerning customers' intention to recommend the airlines to a friend or family member showed that customers would mostly not do this. This is a finding with important implications for the Libyan airlines, which will increasingly find themselves

subject to aggressive competition for routes with international competitors. There is therefore an urgent need for these airlines to follow up this research to identify measures that they can put in place to rectify this problem.

There is a wide agreement that service recovery has an impact on customer satisfaction, but this study is one of the first which addresses the impact of the dimensions of justice on customer perceptions of service recovery, and its subsequent impact on satisfaction. Service recovery has been an important part of the relationship between customers and both businesses and governments, and satisfaction (or otherwise) is often due to positive or negative experiences of recovery effort, (Karatepe, 2006; Yuksel et al., 2006; Sparks & Fredline, 2007; DeWitt et al., 2008 Kim et al., 2009).

Service recovery important element in providing a service, as each service encounter influences subsequent service, and the future of the relationship between the client and the service provider. Businesses need to continually update their knowledge about the beliefs and expectations of customers with regard to their service, and with each purchase they can integrate new information into their knowledge (Tax et al., 1998).

The impact of perceptions of important customers on the future of a company has been confirmed by previous research (Goodwin & Ross, 1992; Tax et al., 1998; Boshoff, 2005; Gustafsson, 2009; Wang et al., 2011), both theoretically and experimentally. This has had an influence on this study's design, as supported by Tax (1998), who states that the study of customer perceptions by specialists has an impact and is a powerful tool to predict the future, and as such the collection of the perceptions of customers plays an important role in the relationship between elements of a service offering (including recovery from failure) and the creation of customer satisfaction. This relationship has several implications for the management of service operations, which are discussed below. It is important that staff are trained and encouraged, and enabled to detect the failure of services and empowered to implement immediate service recovery, as there are part of a successful approach to recovery planning. This means that the recovery efforts involving pre-emptive or immediate interaction with customers can leave positive perceptions of satisfaction, even though the customer may not be have been satisfied with the encounter initially. Staff need to learn how to create satisfaction in the experience of service as a whole, without focusing on a specific complaint or failure of a specific service. In companies with highly effective IT systems,

databases can be used to track and contact customers, and techniques can be developed to identify successful competitors that satisfy their customers and prevent them from choosing a different provider.

While companies can expect customer defections due to more attractive offers from competitors, they should attempt to establish systems to maximize the positive experiences of the past and to limit certain types of defection, such as those resulting from dissatisfaction with service recovery efforts. For example, if the customer is satisfied with an attempt to recover a service error they may be more inclined to remain loyal, whereas if there is any perception that a company is ignoring the error instead of going to the trouble of rectifying it, as required, there may be disappointment. Employees need to be properly trained and be able to quickly agree on the restoration of part of a service, and be able and empowered to affect a recovery. Smith (1998) notes that customers are particularly sensitive to rudeness or inefficiency when they have already suffered a service failure and are in the recovery phase, and the findings of this study show a strong correlation between the service recovery item apology and satisfaction, and between items in the justice dimensions connected to attentiveness and efficient dealing with issues that arose.

This would seem to confirm Sievert's (2002) view that resources invested in the training and empowerment of frontline staff dealing with service recovery has the potential to repay its investment many times over in terms of satisfaction, loyalty and intention to repurchase. In a more recent study, Matilla et al. (2010) found that customers still appreciated a human element in efforts to overcome service failures, even when, for example, an airline ticket booked online proved to be invalid, and stressed the necessity of meeting a failure caused through a face-to face encounter as absolutely requiring the personal intervention on frontline staff to resolve, observing "a human recovery following a human failure led to higher perceptions of interactional justice, satisfaction with problem handling and repurchase intent" (p. 353). This indicates that even as the technology of the Libyan airlines advances and their systems become more automated, the importance of well-trained and well-informed frontline staff will remain, and even grow, as the airlines' best chance of turning service failure into satisfaction.

This study's findings emphasize the importance to customers of having an outlet for their frustration and dissatisfaction in the form of someone they can talk to and who can empathize with their problems. Appropriate offers of apology and compensation, offered in a timely fashion and in person, were significant contributors to feelings of being treated justly, and this finding echoes those of Yang and Peng (2007), Matilla et al. (2010) and Nikbin et al. (2011). However, the concern for a company is for when an employee is not prepared, or does not even apologize to the customer when a service fails. Customers are then perhaps left with perceptions that they have not been treated with justice; this will damage the overall success of the service. Customers may then store a memory of poor service quality and ignore future efforts resulting from the continuous improvement in a service or product, due to their initial bad experience. It is important that the client must trust the service provider. When developing systems for the delivery of services, companies that consider whether the interactional (people), distributive (service), and procedural (process) aspects of their system are sufficiently strong to increase the effectiveness of the system and enhance the chances of achieving customer satisfaction.

The findings of this research, as presented in Chapter 5, indicate a strong correlation between certain elements of service recovery and perceptions of the dimensions of justice. Not surprisingly, and consistent with previous research, it is found that compensation and apology, and the speed with which service recovery is achieved, influenced the perceptions of customer with regard to distributive justice (see for example, Goodwin & Ross, 1992; Kelly, Hoffman & Davis, 1993; Tax, Brown & Chandrashekar, 1998; Hoffman et al., 2003; Kim et al., 2009; Lin et al., 2011). Customer satisfaction was found to be affected to a large extent by the recovery procedures (in particular compensation and apology) provided by a service company and the impact of the interaction between those procedures to some extent determine a customer's future purchase decision.

The implications for the two Libyan airlines of these findings are that constant effort to improve and build on the quality of their service offerings will be required. If it were possible to avoid service failures altogether in the airline industry, that would be ideal, but this is not an attainable target in an industry subject to so many outside influences beyond the control of the airline. Therefore, as Libya's economic openness increases and more international and local airlines begin to operate routes into and out of the country, the airlines will need its service recovery efforts to be at least comparable with its closest competitors, in order to maintain a position of competitiveness.

The results of the study show that attempts to begin recovery service by the provider and made official during the recovery process have a direct impact on customers and their concept of interactional justice. The results for interactional justice perceived by customers to be most important (see table 5.31) show a preoccupation with a need for individual service tailored to specific customer needs, and for a feeling of confidence in the ability of airline personnel to resolve failures or problems. This is consistent with previous findings about the concept of justice, and directly relate to the interaction of service employees with people who have suffered from service failures, and in the case of this study, their satisfaction with airline representatives at meetings to restore the transaction (see for example, Ford, Markowski & Honeycutt, 2007; Matos, Henrique & Rossi, 2007; Hess, 2008; Kim et al., 2009; Wang et al., 2011).

Customers who are forced to complain in order to begin a service recovery process tend overall to display more anxiety than their counterparts who do not need to complain, since this requires customers to express their dissatisfaction directly to the service provider, thus breaking the harmony of the relationship between them. Observations and conversations made by the researcher during the field research phase of this study showed that the airlines surveyed were in a passive position with regard to service failure, responding to service failure complaints but not providing channels to collect customer feedback, or even collecting data on types of complaint and their frequency.

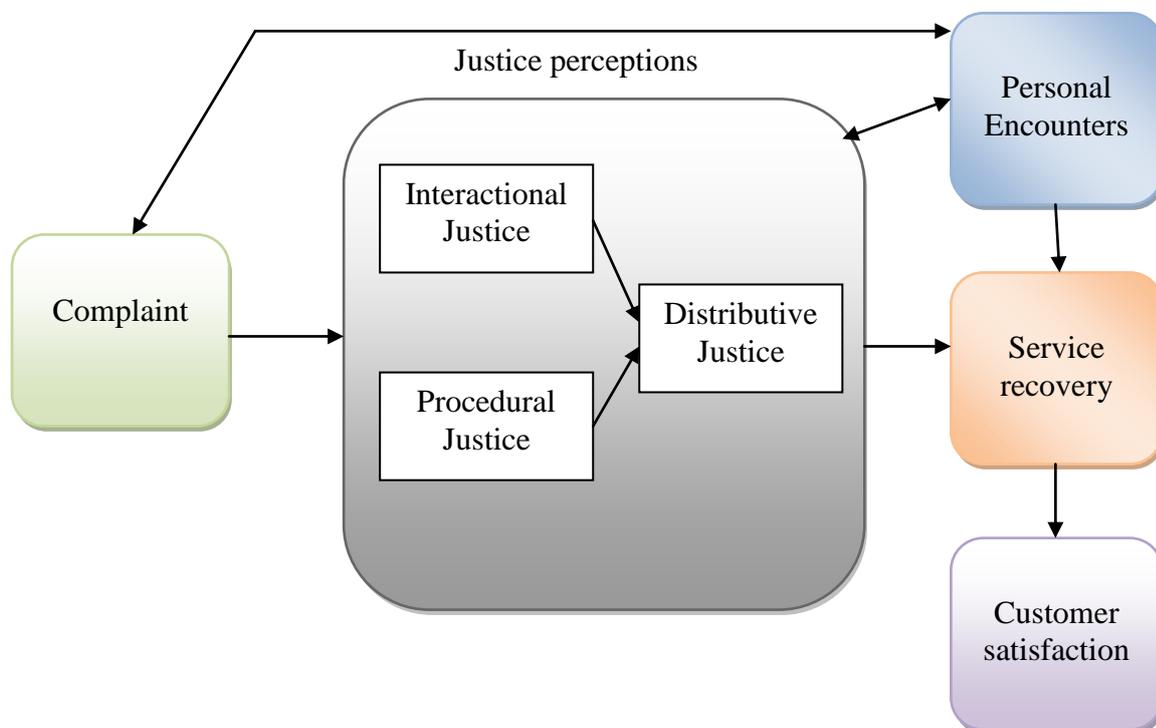
**Table 6-2: The class of travel of Respondents**

<b>class</b>	<b>Frequency</b>	<b>percentage</b>
Business	96	16.4
Economy	488	83.6
Total	584	100.0

Table 6-2 tells us that 16.4% of the Respondents are travelled by Business class, while just 83.6% are travelled by Economy class.

The findings of this study show that customers who did make a complaint wanted to be taken seriously, wanted to be dealt with quickly and efficiently, and wanted the apology and compensation they were offered to reflect the price they had paid for their ticket. It seems reasonable to conclude that a customer who had paid for a first-class ticket would expect the level of attention, and compensation, they received to reflect the initial price paid for their ticket. This type of expectation had a significant impact on all three dimensions of justice: the airlines therefore need to build into the cost base of their ticket pricing the expense of providing and training frontline staff capable of meeting the expectations of customers willing to pay a premium for their ticket.

The impact of these dimensions on customer satisfaction with service recovery has a significant effect on the recovery of positive perceptions of the fairness of distributive, procedural, and interactional justice and enhances customer satisfaction significantly. (See for example, Tax & Brown, 1998; Smith, Bolton & Wagner, 1999). Furthermore, analysis of the data collected indicates the generalizability of the model developed the literature review (see figure 2.4) to perceptions of justice with regard to service recovery efforts in aviation in North Africa, and specifically Libya.



**Figure 6-1: The importance of personal encounters to customer satisfaction**

Libya is also shown to be a country producing results in line with previous research in the area of customer satisfaction with service recovery (for example, Tax, Brown & Chandrashekar, 1998; Smith, Bolton & Karatepe, 2006; Kim et al., 2009; Mattila et al., 2010). The study provides evidence that the most important factors for customers were connected with the way in which they were treated when they had initiated a service failure complaint. The significant absence of speed from the final, modified conceptual model, in contrast for example to Yang and Peng (2007), suggests that when faced with a failure, airline customers in Libya wanted an efficient resolution, based on equitable compensation and close personal attention to the details of each individual problem. The significant correlation of items such as those which made customers feel important, put customers first and gave customers confidence in the efficiency of staff with perceptions of justice show that a first priority should be for staff engaged in service recovery efforts should be to put customers at ease. Efficient resolution with appropriate compensation then completes the service recovery process and can turn a service failure into a factor contributing to the satisfaction of the customer; this is a highly desirable outcome, but the findings suggest it is only possible with highly competent and well-trained staff.

The results of this thesis generally support previous work in the context of service recovery, and it shows that all three dimensions of justice, as investigated in the main body of the questionnaire, had a direct effect on customer perceptions of satisfaction. Customers make judgements about the justice of attempts at service recovery based on their perceptions of its distributive, procedural and interactional elements, and this had an effect on their future intention to purchase from the same provider.

This can be seen as logical, because customers must interact and communicate with the service provider and procedures governing the settlement of the complaint before any attempt to determine the final result. When customers are faced with attempts at service recovery, they make judgements of all three major elements of justice, but it seems that perceptions of distributive justice are affected by the perceptions of interactional and procedural justice. This discovery is important because it has always been assumed in previous research (Brown & Chandrashekeran, 1998; Tax, Smith, Bolton & Wagner, 1999; Peng & Yang, 2007) that the three dimensions of justice act upon perceptions of service recovery at the same time.

However, this study shares some similarities with other more recent research around the world that seems to be indicating a primacy for distributive justice as an influence on satisfaction (see table 6.1). For example, Mattila et al. (2010) found a strong influence by distributive justice on repurchase intention, while Lin et al. (2011) found distributive justice to be influential on all the satisfaction outcomes they tested. This is an area that clearly merits further investigation, in a range of environments, and it may be that the level of economic development in a country affects the importance of dimensions of justice on satisfaction; however, this study indicates that service recovery efforts within the area of distributive justice deserve close attention.

Previous studies have mostly been concerned with investigations into the effects of justice through direct and indirect interactions on customer satisfaction. They have considered service recovery and justice to be equally important antecedents to satisfaction, whereas this study suggests that initial perceptions of justice are actually formed at the stage when the complaint is first made, and that perceptions of justice are determined to a large degree by the personal interaction of the customer and the individuals with responsibility for recovering an organization's service error. Thus, personal encounters around the service recovery effort result in the formation of initial perceptions of the dimensions of justice. The results of this study are supported by previous studies that found similar results for higher levels of justice; however, this study found that personal attention from service recovery staff leads to higher levels of customer satisfaction, and stresses the importance of specifically personal treatment in achieving customer satisfaction through high quality, timely and effective service recovery efforts, (see the results in table 5.31 and the explanation below the table.)

This study has explored the importance of interaction as the necessary precursor of justice in the production of customer satisfaction when a service event fails. This study, which benefits greatly from previous research and results, provides a more comprehensive view of perceptions of justice and their relationship to interactional processes within the service recovery effort. Some previous researchers have also found that positive perceptions of justice arise from the interactional portion of a service encounter (Weun, Beatty & Jones, 2004), or that part of the service which is not tangible (Parasuraman, et al., 1988; Goodwin & Ross, 1989; Bies & Shapiro, 2002; Bitner et al., 2002; Clemmer, 2003). As seen by Tax et al. (1998), all these authors see justice as being determined by the interaction between people when the customer is in the service delivery system, or while being of the subject of service

recovery, and the justice and quality of interaction between the parties is involved in the resolution of any conflict the customer may feel (Bies & Moag, 2002; Casado-Díaz et al., 2006; Nikbin et al., 2011).

Customer perceptions of justice are therefore a leading indicator of customer satisfaction with service recovery efforts. According to Kim et al. (2009), the perception of justice is determined by the nature of interactions or the absence of an apology after the failure of a service and in-service attempts at recovery. It was noted that many times in the treatment of people that the failure to apologize and show a personal interest in a customer's complaint remained prominent in the memory for a longer period than other details in this service. In this study, customers highlighted the feeling that they were important to the company and that their problem was being dealt with on an individual basis as contributors to satisfaction with service recovery efforts. This is shown by the items within the justice dimensions that correlated most strongly, for example the feeling that customers were being treated as a priority, that their individual importance was being recognized and that staff were not too busy to deal with their problems. This importance of the reassurance that personal contact can bring to the perception of justice in interactions aimed at achieving or regaining customer satisfaction indicates that it is essential that business owners and managers try to achieve satisfactory communication between people through the exchange of information and an apology to the clients of their business who suffer service failure.

This suggests that managers must develop training programs that enhance the skills of all employees in the interpretation of customer dissatisfaction and communication to create favourable assessments of universal justice that lead to satisfaction. These skills are similar, and ensure the reliability and the ability to respond of personnel charged with service recovery responsibilities, (Holloway et al., 2009).

The results of this study demonstrate that a close attention to the need for adequate training can play an important part in instilling the behaviours and attitudes that are not only very important in building a base of loyal and satisfied customers, but also enable service recovery personnel to identify potential future failures, and act to prevent them. The findings from the questionnaire data indicate that customers appreciated an apology and the instant offer of some form of compensation commensurate with the injury they felt had been done to them as the most effective service recovery initiatives, and these had the greatest effect on their

perceptions of justice, leading to an overall favourable view of interactional justice. The Libyan airlines surveyed therefore need to train, and empower employees to offer these types of service recovery initiatives, on the basis that the expense they entail, at least in the form of compensation, is likely to be more than covered by the satisfaction engendered and the consequent likelihood of repurchase.

### **Perceptions of justice - distributive justice**

The results of a large number of studies of the effects on customer satisfaction of the distribution of direct and indirect universal justice show that distributive justice has the largest impact on overall perceptions of justice and is central to a large extent in achieving customer satisfaction (Casado-Díaz et al., 2006; Mattila et al., 2010; Nikbin et al., 2011; Lin et al., 2011). These findings confirm previous theoretical and experimental research, including Smith's 2001 study, and this study also found that the highest levels of customer satisfaction were associated with a high evaluation of distributive justice. However, this is not a unanimous result in the literature. For example Chebat and Slusarczyk (2005), found distributive justice and tangible results to be equally important elements of service. Greenberg, (1990) found that customers allocate equal importance to the three elements of perceived justice, as did others (Smith et al., 1999; Wirtz & Mattila, 2004; Chebat & Slusarczyk, 2005). Problems with a measure of distributive justice arise because of fairness and equality, and it is not easy for customers to differentiate, just as it is difficult for the customer service staff to evaluate their inputs and outputs (Jones et al., 2000; Lee & Cunningham, 2001).

Distributive justice is important, and it is likely that long-standing customers form perceptions of their service on the basis of a comparison with customers they know who have obtained acceptable results. Conversely, customers who have suffered from many errors from an organization providing a service cannot forget it, and this is likely to influence other customers and potential customers and their own decision to use the same service provider in the future. These effects, often described as intention to repurchase and word-of-mouth (WOM) have been investigated separately in some studies, with results that indicate that both are influenced by similar dimensions of justice as overall satisfaction, which was the theoretical outcome of this study. For example, Nikbin et al. (2011) found distributive justice to have the strongest effect on intention to repurchase, with interactional justice also

important, while Lin et al. (2011) found a strong influence by distributive justice on repurchase intention and interactional justice on WOM, with a wide degree of interrelationship between distributive justice on one hand, and elements of procedural (such as apology) and interactional justice on the other. These results are broadly aligned with this study's findings, in which compensation and distributive justice were most strongly linked, but where procedural and interactional elements also had an effect (though lesser) on overall satisfaction.

A high perception of distributive justice can reduce the impact of interactional and procedural injustice when the final distribution is acceptable to some extent. Central to the idea of multi-attribute perceptions of customer satisfaction, and justice, a positive 'result' for distributive justice will produce more favourable perceptions of procedural and interactional justice, and thus higher levels of customer satisfaction. The concept of equity has been used several times to explain the 'fair distribution of justice' in service recovery (e.g. Tax, 1993). Research has supported the role of equity and distributive justice on perceptions of service recovery (Lamet et al., 2004; Chang & Chen, 2008; Liu, 2008; Deng et al., 2010). This helps to achieve justice in the distribution of services and failure recovery when the client gets at least what was expected prior to the services failure occurring. Payment, replacement, repair, correction, and credit are the characteristics of trying to recover from services failure to achieve a perception of justice (Tax et al., 1998).

Because of its major impact on customer satisfaction, the results with regard to distributive justice in this study suggest that employees of the airlines surveyed should not only be trained in service recovery to ensure that the needs and expectations of the customer who is dissatisfied are met, but they also require two key support channels. Firstly, they require access to the information that can enable them to resolve a service complaint: for this good IT is the key. Customers who feel they are not dealing with someone empowered to help them (see the significance of the item 'the behaviour of employees gave you confidence') lose faith in the service recovery process and this can mean that any chance to regain satisfaction is lost. Secondly, they need a management structure that will delegate authority to make decisions to customer facing frontline employees. Furthermore, service personnel must be able identify the justice or injustice of any initiatives they take in terms of their distribution of service recovery efforts, and find out what must be done to restore justice when they do not meet customer expectations. In order to reach the expectations of customers with regard to

the quality of goods and services provided, the airlines must ensure that they take into account the aspirations of customers, and their employees should be aware of the causes of satisfaction in their customers and be trained to look for and correct deviations before they occur. Front-line employees who are empowered with certain procedural instructions to restore failures in service connected to perceptions of distributive justice are more likely to achieve overall justice, which enhances the chances of achieving customer satisfaction. With regard to distributive justice, the most important elements identified by the participants of this study were connected to issues of time and money, and the feeling that service recovery efforts wasted as little time as possible and reflected the customer's perception of the value of the ticket they had purchased.

### **Perceptions of procedural justice**

There have been many previous studies of procedural justice and its effect on overall justice and customer satisfaction. The findings of this research are in line with the results of previous research, both theoretical and experimental, including Smith's 2001 finding that customer satisfaction was higher when the concepts of procedural justice in the restoration of service were also higher.

The definition of justice or procedural fairness in the literature sees it as a process in the recovery of service which restores procedures in a step by step way, helping to solve the problems of the organization (Río-Lanza et al., 2009; Yi et al., 2010). According to Tax and Brown (1998), procedural justice is concerned with standards of procedural fairness or the adequacy of the procedures used in decision making. In their evaluation procedure, clients make a subjective comparison of the processes used for conducting transactions, either previously with the same provider, or through their experience of another provider. Studies have used a range of criteria to measure the procedural justice of services. For example, Sparks and Fredline (2007) and Karatepe (2006) used pay equity for their analysis of the environment of the organization. The application of Ha and Jang (2009) was for human resources practices; David, (2005, 2003) used the opportunity for customers to participate, by providing views to measure procedural justice.

Procedural justice has also been examined in research using retrospective self-reports that focus on the failure of a service and subsequent refunds. In a study by Río-Lanza et al. (2009)

this proved to be a difficult concept to apply to test cases. It is important for businesses to ensure that their results in terms of procedural justice in the context of service recovery are good enough to achieve higher customer satisfaction ratings than other efforts.

In their study into satisfaction with banking services, Casado-Díaz et al., (2006) found that elements of service recovery associated with procedural justice (e.g. apology, consideration, seriousness, competence) had a greater effect on customers' emotional response as opposed to purely cognitive response. Stressing the importance of emotional responses such as anger, they argued that emotional empathy allows a service provider the potential to recover from a double-deviation event, and secure overall satisfaction despite initial dissatisfaction with both a service failure, and initial attempts at service recovery.

This study included two questions on emotional response in its section on procedural justice, asking whether service recovery efforts had made customers feel important, and whether they had made them feel dissatisfied (question 54). The findings indicate that procedures that made the customer feel important lead to significant satisfaction with their flight, suggesting that concentrating on establishing emotional empathy with customers could have very beneficial effects for the airlines. Service recovery training that concentrates on providing front-line staff with empathetic skills such as listening, making apologies, understanding complex requests are therefore recommended to the management of these airlines.

## **Conclusion**

Business owners and managers must include procedural justice in the design of systems and train staff on the front line, and any other staff who deal with customers. In view of the result of the data analysis, and in particular the findings with regard to the items of service recovery that most influenced perceptions of procedural justice, consideration should be given the characteristics of the procedures employed in service recovery efforts. In particular, the respondents identified procedures that put the customer first, were streamlined and made them feel important as contributors to a positive perception of procedural justice. Judgements about the effectiveness of procedural justice must take into account customer perceptions of the characteristics of procedural justice, In order of importance, these are 1) responsibility, 2) timing and speed, 3) convenience, 4) follow up to the monitoring process, 5) flexibility, and

6) knowledge of the process. In the light of these recommendations and the findings of the study, managers at the airlines surveyed should ensure that it is in future easier for customers to make a complaint, that such complaints are dealt with in person and in a timely manner, and that the level of attention given is commensurate with the service failure **and** with the expense of the service bought.

### **Perceptions of interactional justice**

Customer perceptions of overall justice, a compound of the concepts of interactional, distributive, and procedural justice, are significantly and positively related to customer satisfaction. This is not surprising. The two areas build upon each other and exert mutual influence judgements of exploration and support (Tax et al., 1998). It has also been suggested that customers assess interactional, distributive, and procedural justice independently, (Swanson, 1998; Del Río-Lanza et al., 2009), pointing to a link between procedural justice and interactional justice, and studying them as a single unit, which affects and is affected by distributive justice. There is some support for this suggestion in the literature, and in the findings of this study, wherein the service recovery element ‘compensation’ was found to have an influence on all the dimensions of justice, and distributive justice was the greatest influence on satisfaction. Similarly, studies by Lin et al. (2011) and Mattila et al. (2010), Lin et al. (2011), Casado-Díaz et al. (2006) all found distributive justice to be an influence on whatever forms of satisfaction they tested, while procedural and interactional justice were either not an influence or were found to influence in combination with another dimension. The question of whether customers evaluate structures separately or on a global basis is still uncertain, and further research on the links between individual dimensions of justice and satisfaction would be valuable.

Researchers have found that there are several positive relationships between justice and satisfaction in the preparation of service recovery (Folger & Konovsky, 1989; Oliver & Swan, 1989; Rindova et al., 2005; Hess, 2008). It has been asserted that interactional justice is a composite of three amounts of justice, and can be used to search for a way to validate queries about universal justice: Río-Lanza et al. (2009) in their study stressed that the correct approach to justice in distributive and interactional areas restored the customers’ trust in the behaviours of the service, and created positive word of mouth, and repurchase intentions. Furthermore their data, which was based on retroactive reports from service encounters,

formed the basis of a judgement that interactional justice is more important than distributive justice on the behaviour of customers in the future, suggesting that interactional justice may be more important than realized by previous researchers. Earlier research, (Kim & Mueller, 2003; McColl-Kennedy & Sparks, 2003; Del Río-Lanza et al., 2009) pointed out that distributive justice was more important for the future of interactional behaviours when using an experimental scenario.

Such research indicates that customers want to get what they want (distributive justice), and they also want to be treated with respect (interactional justice). Different results may stem from different methodologies; however, it is possible that the interests of justice vary with the type of service provided to customers. The study by Tax et al. (1998) provides support for the concept of an interaction between distributive and interactional justice in determining customer satisfaction after a complaint. In this study an association was found between high scores for distributive justice and overall satisfaction in the same customer.

Tax et al. (1998) and McCabe (1990) explore the concept that the behaviour of the employee (interactional justice) is affected by customer perceptions of procedural justice. To Tax et al. (1998) the assumption of the interaction between procedural and interactional justice is non-statistically significant in cases dealing with complaints. According to Smith (2001), customers make judgements based on procedures relating to personnel, who define an organization's treatment of its customers, and this treatment influences personal perceptions, and thus assessments of procedural justice. Taking the process of forming customer satisfaction on a stage, Lin et al. (2011) found interactional justice to be influential on WOM as an outcome, but maintained that it was only when the elements of interactional justice were combined with the dimension of distributive justice that it became influential on WOM, intention to repurchase and overall satisfaction, just as procedural justice was influential only in combination with distributive justice. While this study has not sought to associate the individual dimensions of justice with customer satisfaction in a comparative manner, the modified model clearly indicates a link between compensation, distributive justice and customer satisfaction, with apology and interactional justice having a lesser but significant effect. Thus, the study confirms the importance of distributive justice highlighted in previous studies, while also identifying the areas of service recovery where the Libyan airlines should focus their efforts; namely, compensation and apology.

If the workers of the company do not have true knowledge of customer behaviour, and the right attitude, then customers' perception of procedural justice is likely to be associated with low customer satisfaction (Goodwin & Ross, 2001). Kim and Mueller (2003) proposed that if a company failed to appreciate the relationship between the concepts of procedural and distributive justice, that this could make the issue of perceived injustice worse. This would be especially the case when the customer believes that the result could be better through a more equitable process, and, if efforts, at service recovery involve the customer in more work, customer satisfaction is likely to reach its lowest point (Tax et al., 1998; Mattila et al., 2010).

This research suggests that, given the heterogeneous nature of work in the services sector, service providers are unlikely to know exactly how their customers evaluate service and translate this to feelings of satisfaction or dissatisfaction. Assessment methods may vary through the service process, and depending on mood, with variations in individuals and personality types. Service businesses should be prepared to provide excellent service regardless of how they expect evaluation of the service. And more companies need to understand that the personal interactions (interactional justice), and processes (procedural justice), and the results of value (distributive justice), will probably combine together to achieve universal justice, and customer satisfaction will result from it.

### **The Effect of Interactional Justice on Customer Satisfaction**

Discussion of the results of the study showed significant effects of concepts of interactional overall justice on customer satisfaction, indicating that a timely and considered response from service staff to a failure resulted in an immediate improvement in perceptions of justice. Furthermore, higher perceptions of interactional justice resulted in high overall justice and customer satisfaction. These results are supported by previous studies that reached similar conclusions about higher levels of interactional justice leading to higher levels of customer satisfaction, which highlight the importance of fair treatment between individuals in achieving customer satisfaction through service encounters.

Studies exploring the interaction of justice and customer satisfaction have mostly concentrated on the period after a service failure has occurred. This study, which benefits greatly from previous research, provides a more comprehensive view of justice in an interactional transaction service. Justice arises from the interactional part of dealings between

people (Yang & Peterson, 2004; Lin & Wang, 2006). It is the intangible part of the experience of a service which consists of provisions related to justice and customers make judgements of these intangibles based on their expectations and experience of prior service encounters with the same company or competitors (Jones et al., 2000).

## **Contribution**

Many organizations focus on the service itself in their efforts to continuously improve their service delivery. However, in the literature on Services Marketing it is often service encounters and social exchanges which are regarded as first and foremost in importance (Czepiel 1990; Kim & Mueller, 2003; Kim et al., 2009). Previous researchers have suggested that efforts made to meet the service requirements of customers could focus on structural opportunities for sociability and closer interaction between clients and service providers, leading to more favourable perceptions of procedural and interactional justice, and significantly enhanced customer satisfaction with the restoration of service (see for example, Tax & Brown, 1998; Smith, Bolton & Wagner, 1999).

The data of this study are consistent with the findings of previous research (for example, Tax, Brown, & Chandrashekar 1998; Smith, Bolton, & Wagner, 1999; Mattila, 2001; 2010), and point towards the emergence of a pattern connecting compensation in the area of service recovery with high perceptions of distributive justice, which then has a positive effect on satisfaction elements such as positive word of mouth and intention to repurchase. Moreover, the findings indicate that a recovery process is also affected by perceptions of justice in different ways; and this study's results identify the items of distributive, interactional, procedural justice that had the greatest influence on overall perceptions of justice.

Moreover, significant delay or a lack of courtesy in dealing with customer complaints was found to be the principal cause of dissatisfaction. However, whereas previous research has suggested that the effects on each dimension of justice on satisfaction were equally significant the findings of this study are that the items of distributive justice that correlated most strongly with customer satisfaction were items connected with speed of response and a sense that service recovery staff made an association between the expense of the customer's airline ticket and the priority given to solving a service failure (see Table 5.14). Similarly, in their perceptions of procedural justice customers showed that they wished to be treated as an individual, with specific needs, and in a timely and efficient manner. In terms of interactional justice, customers wanted to feel that staff had time to listen to their complaints, and to have

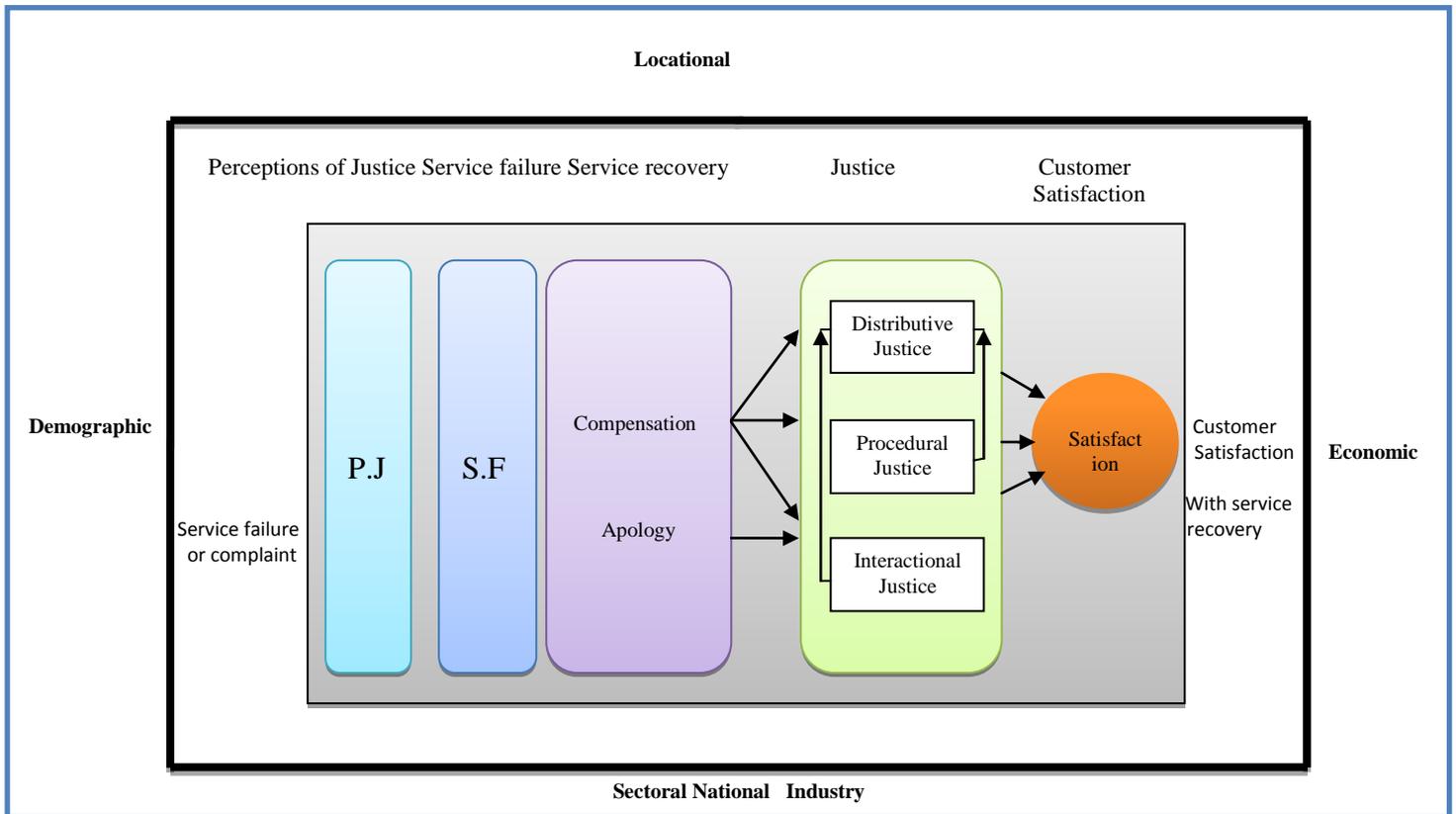
confidence that the employee with whom they were interacting had both the skills and the authority to deal with their complaint.

These results indicate that the Libyan airlines which are the subject of this study should focus their efforts aimed at improving service recovery on the areas of staff training and empowerment, so that customers who may be in a stressed and difficult situation with a strong emotional and/or financial interest in seeing their service failure resolved can be assured that their first point of contact with the organization responsible provides them with confidence that their complaint is being taken seriously and that it will be resolved to their satisfaction. Finally, this study has provided a bridge to a conceptualization of service recovery in the literature, drawing on previous research, but also expanding on it by providing a close analysis of the relationship between the dimensions of justice and a wide range of items representing elements of service recovery, to assess their correlation and their impact on satisfaction, and as such it contributes to a wider understanding of the context of service recovery.

### **The Modified Service Recovery Model**

A major practical contribution of this study lies in its relevance and usefulness to the airline industry as a whole, and particularly in developing countries, by providing insights into the process of achieving customer satisfaction (or causing dissatisfaction) with service recovery efforts and a methodological framework that can be replicated or adapted in other industries in other developing countries. To illustrate this, figure 6.2 shows a modification to the theoretical model derived from the literature review and presented at the end of chapter two, but placed in the context of the effects of perceptions of justice on satisfaction with service recovery, as outlined in the presentation of the research instrument in chapter four (see figure 4.2). The modified model is now shown as being surrounded by a specific research context within which the data that caused the model to be modified were collected. This research context requires the researcher to take into account locational, industry, economic, demographic, sectoral and national influences in the interpretation of research findings. Much of the background of this study's context was explained in the early chapters of this thesis, in particular in chapter three, and this context is included as a surrounding to the model to illustrate that although this study's methodology is capable of application to another industry in a different sector and/or country, and its factor analysis could also be replicated, the

interpretation of the findings of the factor analysis would need to take account of the contextual elements specific to the particular research situation.



**Figure 6-2: Modified model of service recovery in the Libyan Airline industry.**

The model above illustrates the importance assigned to the elements of service recovery by the customers surveyed: in this respect, the outcome of this study differs from some previous researchers in what is still a relatively new area of enquiry, but also accords with other very recent research in this area such as the studies outlined in table 6.1. Yang and Peng (2007) in their study of customer satisfaction and service recovery in the Taiwanese automobile industry found a strong positive correlation between the element of speed and positive perceptions of procedural justice, whereas in this study factor analysis shows speed to be only weakly correlated with any of the justice dimensions, to the extent that it is excluded from the final model. Contextual interpretations of the exclusion of speed from the final model are possible; for example, it may be that the customers of airlines based in developing countries have a lower expectation with regard to speed, or that elements of service recovery connected

with apology and compensation were simply regarded as much more important, and this is certainly an area in which future research by the Libyan airlines surveyed in this study would be fruitful.

The strong correlation between compensation and distributive justice found in this study, and evidence of a link between distributive justice and customer satisfaction in studies by Casado-Díaz et al. (2006) and Nikbin et al. (2011) suggest that a pattern of influence is beginning to emerge which merits further investigation. The results indicate that it is in fact compensation which has the greatest effect on perceptions of justice, correlating strongly with all three dimensions, while apology was found to correlate with interactional justice: all of these perceptions of justice contribute to feelings of customer satisfaction. The findings indicate that for the customers of the Libyan airlines surveyed, it was most important that following a service failure that they felt they were going to be compensated for their inconvenience, and that airline staff were courteous and attentive to their problems; speed was not a vital contributor to the creation of customer satisfaction.

The most important outputs of this study aside from its results are represented in the diagram by its sectoral and national contribution. Nationally, this is the first study conducted in Libya which investigates the relationships between service recoveries, perceptions of justice and customer satisfaction, in any sector. Furthermore, an extensive literature search uncovered no studies of this kind having been conducted in Africa, or the Middle East either, meaning that this study has the potential to be a starting point for much future research. In terms of the aviation sector, the researcher has been unable to uncover any previous studies which investigate the three main elements of this study together, (service recovery, justice and satisfaction) seeking to discover their interrelationship, and focusing solely on the aviation sector. The researcher focused specifically on customer satisfaction with service recovery because aviation is an extremely complex area of service provision with an almost limitless potential for service failure. But it is also a strategically vital sector for a country's economic development and an important national brand from which foreign businesspeople and tourists form an impression of the country a whole. In terms of its contribution to the aviation sector as a whole, this study is not directly comparable with any previous study the author has been able to identify in that it includes the relationship between service failure, perceptions of justice and customer satisfaction. Unlike the study of Cal, Oral and Vural (2005) it does not divide its respondents into groups and compare their responses, although it does agree with

their findings to the extent that it found a major cause of dissatisfaction to be a perception that promises of compensation that are made prior to a service failure are not met when it occurs. This study's results should be seen in the context of two small, local airlines operating in a developing country with limited resources, but servicing an international clientele of travellers (of the respondents surveyed, 36.8% were non-Libyan). In this context, it is possible that the absence of speed from the elements of service recovery most perceived to contribute to feelings of justice is more understandable, in that customers had lower expectations of the efficiency of service recovery efforts but appreciated the compensation and apology they received in service recovery efforts. This study therefore has most relevance to airlines operating in developing countries but servicing a diverse customer base, and its implications are that customer satisfaction can be retained if service recovery efforts are characterized by a consideration of the customer as an individual and the provision of adequate compensation.

The study's findings, outlined in detail in chapter 5 and distilled into a simple diagram in this chapter, provide a starting point for Libyan managers to begin considering how to organize training and staff development in this area, and as such it has implications for a whole range of service industries with characteristics similar to aviation, such as hospitality (especially hotels), financial services, health services, education and utilities. Libyan managers and policy makers need to consider the study's findings, based on the customers of its most complex and fast-moving service industry, and develop programmes which take into account customer sensitivities to the apology and compensation they are offered in return for suffering service failures. The effectiveness of its efforts at service recovery are therefore of national importance. Within the aviation sector in Libya the two companies studied are the dominant players, and represent the most complex service provision operation in the country, with the widest range of customers and potential customers from many different backgrounds and nationalities. It is therefore expected that this study can be regarded as a pioneering study into service recovery in the Libyan (and African) context, and will form the basis on which future research can be developed, both on the aviation industry in Libya and on other service industries within the country.

## **Customer Service Functions**

These functions depend on the quality of the interaction between individuals, especially service providers who work on the front lines with customers, who have a large influence on evaluations of customer service efforts. It is here that judgements are formed, and organizations working in services vital to the future development of a country or participating in international projects need to be particularly sensitive to the diversity of their customer base. The results showed clearly that the model's output or result of customer satisfaction is strongly influenced by customer perceptions of the justice of the recovery effort, especially in terms of the interaction between the tactics of recovery devised by a company for achieving customer satisfaction and customer perceptions of their justice.

In other words, while the impact of company policies and the expectations of customers on the perception of recovery efforts vary, depending on the characteristics of individuals, and groups of customers, certain patterns emerge from the data in terms of correlations between items of service recovery and the dimensions of justice, which enable conclusions about the future management of service recovery in these organizations to be drawn and planning on future staff training to be made.

Although the present management is considered to be doing all it can to make sure that customers are satisfied with their recovery efforts, it is in the nature of many service industries that because of the failings of human weakness, this does not always occur. Running a company in international markets adds an additional level of complexity to the satisfaction of the customers. At the macro level, companies can analyse current and potential customers, and manage relationships with customers, both internally and through regulations that meet the criteria of the clients and then build on them using databases and international systems. At the micro level, organizations can develop more targeted systems of service provision such as one-on-one marketing and customer service.

The implications of this general conclusion is simply that the company has the best opportunity to implement recovery procedures most conveniently (and thus generate customer satisfaction) if the employee is sensitive to the needs of individual customers. In certain circumstances frontline service staff are in the best position and are capable of understanding and resolving a customer complaint; however, to expect front-line staff to immediately assess the client (and his/her complaint), requires the member of staff to have

access to sufficient information to comprehend the complaint, and this information can be an integral part of reassuring a customer that their complaint is being dealt with competently, leading to satisfaction with the initial service recovery effort.

In developed countries, this has enabled companies using modern information technology to place customers into groups, and collect more precise and accurate information on service failures so that customers are no longer treated all the same in the eyes of the company. Moreover, technology has created a radical new business model to change the dynamic in the field of customer service. It is now common for companies to measure the amount each customer spends as well as other demographic, behavioural and psychographic data (Lai & Kandampully, 2004). However, in terms of the findings of this study, the conclusion that can be drawn is that investment in information technology is likely to enable airline staff to meet the expectations of customers for timely, efficient and polite treatment of their customer complaints or problems.

### **Limitations of the Study**

All studies have their limitations, and the present study is no exception. Research into the three main elements of this study as a set of related components (service recovery, justice and satisfaction) having a causal effect on each other over time is in its early stages, and the current study is, as far as can be ascertained, the first of its kind to be conducted in an airline context in a developing country. It is therefore in the nature of an exploratory study, and its findings are difficult to compare with other studies, because directly comparable studies do not exist. The strong relationship between compensation and distributive justice found by this study is echoed by Mattila et al. (2010), and other studies (Casado-Díaz et al., 2006; Nikbin et al., 2011; Lin et al., 2011) have established strong links between distributive justice and various satisfaction outcomes such as positive WOM and intention to repurchase. What is needed is a comprehensive framework to investigate the relationships between these three major components and their individual elements.

In terms of the limitation outlined above, a specific drawback of this study is its lack of a means to identify which dimension of justice had the greatest effect on overall satisfaction, and which elements of satisfaction were most affected by which dimensions of justice. To a large extent these relationships have emerged from literature published since this study was conceived and planned (Nikbin et al., 2011; Lin et al., 2011) and even these studies have not

included all three components: there is still room to develop research in this area considerably, and this study represents only a starting point for Libya and research of this kind in the other developing countries.

Further limitation of this study is its treatment of satisfaction as a general outcome, or context within which customers look back on a service encounter they have experienced. In other words, this study interviewed customers of two Libyan airlines who were more or less satisfied with their service purchase, and sought to establish links between service recovery efforts they had been offered and their perceptions of the justice with which they had been treated. Satisfaction was therefore a context within which the customers regarded their experience. What this study did not do was establish relationships between the individual dimensions of justice and specific satisfaction outcomes, and to do this it would have required a qualitative element and an additional range of analytical tools; however, this limitation has only been revealed by research published since the fieldwork was conducted, in particular the work of Matilla et al. (2010). Establishing relationships between elements of service recovery and dimensions of justice, which this study has done, and then establishing relationships between dimensions of justice and specific satisfaction outcomes would require a much larger quantitative questionnaire with many more questions than this study included, raising questions of customer resistance or fatigue, and thus doubts over validity and reliability. Including a qualitative element to the methodology has major indications for analysis and the reliability of the study in other contexts.

## **Future Trends in Research**

The analysis showed that service recovery is highly influential on perceptions of justice and that this interaction affects customer satisfaction. Similarly, it should be emphasized that the research results suggest that service recovery efforts and their effects on the dimensions of justice are indicators of the role of service recovery in achieving business success in a market. Future studies should therefore be initiated, especially in other Libyan industries, on the effects of recovery functions on customer perceptions of justice to provide data on a larger scale and to widen understanding of this relationship as an important element of the service process. In practical terms, it is important that the airlines surveyed begin to collect data of their own on the customer perceptions of their service recovery efforts, including its implications for repurchase and recommendation. This could initially be based on the methodology outlined in this study.

Thus, the study of cause (service recovery) and effect (justice as a precursor of satisfaction) within a recovery situation paves the way to assess the importance of well trained and empowered staff to their jobs and the organization. In service organizations, there has recently been a focus on developing positive attitudes of staff through programmes such as internal marketing for customer service. This shows that the topic is regarded as an appropriate area of study and conducive to the implementation of the practice of service recovery and justice. Further study of this cause and effect process over a period of time will also be fruitful because the data produced will also enable organizations to respond to the intervention of a variable into the recovery process, allowing them to moderate their recovery process and achieve greater sensitivity to customer needs in the provision of services. Theoretically, it can be assumed that a service recovery has some of the characteristics of satisfaction with overall service quality, but with the added dimension on beginning with a negative view of the company occasioned by the service failure, which must be reversed by the quality of the service recovery effort.

Service recovery staff are therefore at a disadvantage from the start and need to be even better at their job than colleagues simply providing a service. The impact of these characteristics on the interaction between staff and clients is vital the development of good business as well as an improved relationship between clients and management in terms of customer satisfaction, especially within companies such as airlines where the complexity of operations makes service failures of various magnitudes more likely and frequent. In other words, if these characteristics enter the service before recovery becomes necessary. For example, at the beginning of relationships with customers, they can also moderate the level of customer satisfaction within the relationship. Often, within a service offering as complex as an airline flight it is often only one element that goes wrong. For example, the time of the take-off may be delayed. In this case, the customer's overall level of satisfaction will be affected by other elements of the service offering as well as the efforts made to compensate for the service failure. It can be seen from the results of this study that the customers surveyed wanted honesty, a swift response and a feeling of confidence in the service staff helping them with a service failure as key requirements, which would enable them to deal with incidents of problems with customer complaints or service, as and when they occurred. Airlines originating in developing countries must be aware that they are competing for passengers with competitors from more developed economies, with years of experience and data on

service recovery and satisfaction; there is therefore a need to researchers to target this area in order to provide the data that organizations facing an increasingly globalized marketplace need.

The impact of a successful recovery on customer satisfaction is very clear, because it helps to overcome the potential points of failure in the process of the service, and thus enable staff to take appropriate action to deal with failures. Clearly the initial priority of a service provider is to avoid the necessity of offering service recovery efforts at all by providing a service without any failures; however, there should also be recognition that when there is a failure in the service, it can also be restored. It is therefore necessary to consider the nature of the intervention as part of the model of customer satisfaction, which includes a relationship between cause (service failure) and effect (service recovery) within the structure of creating satisfaction. Efforts at service recovery are expected, and thus neglecting to intervene in a service of failure after the customer complains has an impact on that customer's perception of the quality of service, possibly to the extent that they feel the organization has not kept its promises in the provision of a service. However, as stated above, service providers are powerless to intervene in this overall problem of generating negative feelings in customers unless they are aware of the size of the problem, and the expectations of their customers with regard to service recovery.

There are a range of variables that affect the ability of the employee to resolve problems in service, or complaints from customers; however it can be assumed that employees who have a high commitment to solve these problems offer a high degree of recovery efforts in the organization, and vice versa. Since services are made up of several types of processes in the delivery to customers, such operations provide an important area for future research in to the subjects of recovery and justice. Such research could also encompass recognition of the key processes and their importance in providing services, and the role of management and employees in anticipating the collapse or failure of the service. It is therefore necessary for management to get involved in all stages of the recovery process, being proactive in identifying failures and offering redress, and equipping front-line staff with the information, skills and authority they need to meet customer expectations of quality and timeliness. This study, and that of Matilla (2010) have begun the process of establishing a conceptual and methodological framework that links service recovery with perceptions of justice; what is now required is that future research in this area should investigate the link between the

individual dimensions of justice (procedural, interactional and distributive) and specific customer satisfaction outcomes (positive WOM, intention to repurchase and overall satisfaction).

Accuracy is the key element to be applied to any knowledge of the recovery strategy in the process of helping to plan an approach to problems with a service. This requires a research instrument which can be employed in similar studies in other service industries, using a range of retrieval strategies. Key aspects of this instrument would focus on the attitudes of staff and clients towards the elements of the recovery elements studied, and their expectations and perceptions about the service and how to address the problems of justice, or customer complaints, and this should be able to provide a scale and show the relative importance of the recovery efforts of the organizations under investigation. It should identify differences in the expected recovery in the measurement of attitudes, and focus on efforts to recovery in a timely manner.

It is also important to develop a tool to measure the differences and similarities between the attitudes of customers and of workers in the airline industry, which can be applied to other services and other service sectors, or even in terms of problems in the process of complaints in customer service which significantly affect the quality and progress (and therefore customer satisfaction) of other service environments. Such a tool would investigate the gaps that exist between what frontline service staff believe their duties to be in terms of service recovery, and the expectations of customers in this regard. This research could then be combined with a more complete study of the relationships between service recovery, justice and satisfaction to provide a complete picture of service recovery from expectations to outcomes.

In theoretical terms, this study has concentrated on the linkage between elements of service recovery and dimensions of justice. The findings provide valuable evidence of the relationships that exist between these important forces in the Libyan airline industry. However, while including customer satisfaction as an outcome, this study did not seek to establish the strength of the relationship between the individual dimensions of justice and customer satisfaction in terms of factors such as intention to repurchase, and intention to recommend (WOM). Future research into this area in Libya should investigate these relationships in addition to those between service recovery and justice, in order to give

Libyan service providers a fuller picture of how they manage their human and other resources to achieve the maximum customer satisfaction. Issues such as intention to repurchase will become increasingly important as Libya opens up to greater competition and economic freedom.

Furthermore, given the current global environment every organization is seeking innovative mechanisms to increase customer loyalty, create competitive advantage and enhance efficiency without sacrificing quality of service (Liu, 2008). Failure to ensure customer satisfaction before and after receiving complaints can lead to a decline in customer confidence, loss of customers, and can also lead to adverse reactions that can produce negative publicity, as well as the directly increased costs in terms of the re-performance of the service (Lin & Wang, 2006; Yang & Peterson, 2004) and the costs of attracting new customers in the case of defection. The evidence collected anecdotally through this research and the lack of any literature focusing on service industries in developing countries suggests that organizations operating in these countries are paying little attention to service recovery, and may be unaware as to the relationships between what they do to recover from service failures and how their customers perceive them in terms of justice and satisfaction. It is therefore likely that research into these relationships conducted along lines similar to those set out in this study could produce real benefits to service providers in developing countries.

The results of this study suggest that the effect of the dimensions of justice on service recovery depend on the customer's orientation, and the expectations of customers and their perceptions of recovery efforts vary, possibly depending on factors such as their country of origin or their experience of international travel with a wide range of airlines. This study has a number of important implications for understanding how customers with different approaches to the interpretation of service recovery efforts can be treated by the company. Future research could be conducted into customer perceptions of the justice of service recovery efforts in airlines using nationality or experience of other airlines as variables.

It enhances our understanding of how to restore the active service, and provides useful guidelines for the establishment of proper fit between the service, its failure and recovery efforts. The results also suggest that the way a service provider interacts with the client has a strong influence on their assessment of recovery in the area of customer service.

Perhaps further work with a more diverse and representative sample would provide interesting conclusions. The tests should be performed in a different country and different conditions to allow an industry cross-sectional comparison between the different customer groups. This may improve the comprehensiveness of the model, which would include the expansion of the context, so that service failures include more than one (1) types (2) levels of severity (3) classification of failure as they relate to the results and procedures, or interaction (4) manipulation of failure in service on the basis of characteristics (both failure was the result of a mistake of an organization or client) to control (5) if it is possible to prevent the failure by the organization or outside of its control (6) features of the recovery services / procedures (for example, apologies and various forms of compensation). Research efforts of this kind would aid our understanding of the design of appropriate service recovery, leading to positive perceptions of justice and hence customer satisfaction with services. In conclusion, this study has contributed significantly to the expansion of knowledge in the areas of services marketing, the assessment of customer satisfaction with customer service, and perceptions of justice through the recovery process in particular.

### **The Researcher's Personal Reflection on the Study**

The completion of this research has been a long and at times challenging and difficult process, partly accounted for by the exploratory nature of the study. The researcher hopes that the study will provide future researchers with inspiration to continue research in this area, and that the results, and in particular the model of perceptions of justice with service recovery, will provide the managers of these airlines, and other large service industries in Libya, with an understanding of the relationship between these three highly important elements of their relationship with their customers. The researcher hopes that this study will provide a gateway to new avenues of research, some of which are outlined in section future trends in research, and that this research will contribute to making Libyan service providers more competitive internationally, and to the development of theoretical and practical service recovery efforts in developing countries.

In reflecting on the course of the research's development, it is perhaps useful to give some personal details of the its progress. The choice of a quantitative method meant that only one research tool was used (questionnaire), and in theory this should have saved some time in terms of data collection. However, in practice, the field work collecting the data was lengthy, owing to the need to distribute the questionnaire by hand and to be available to answer and

queries about it. This fact, and the nature of the statistical factor analysis, meant that both the data collection and analysis processes were long and complicated, putting great strain on my mental and physical (and financial) resources. The difficulty of adapting my limited knowledge of SPSS-14 to the data analysis necessary was compounded by having to acquire these skills in a second language, but in this respect I was greatly helped by my colleagues studying at other universities in the UK, and by my home university in Tripoli.

The data collection process itself, although time consuming and tiring, did afford me certain advantages in terms of understanding the issues I had set out to study. Close contact with security staff at the airport, employees of the two airlines surveyed and of course the customers themselves allowed me to form impressions of their attitudes and practices that have influenced the interpretation of the study's findings to some extent. An example is the difference I encountered when approaching English-speaking and Arab-speaking customers at the airport to request them to complete a questionnaire: in general, the English-speaking respondents were willing to complete the survey and quickly understood the concept and the meaning of the questions. The Arab-speakers in general were equally willing to complete the questionnaire, but required more explanation of its purpose and how the scales of responses worked; this meant that I developed a fuller understanding of the purposes of my study, through repeatedly explaining them to strangers, and also acquired some insight into the attitudes and expectations of these customers. This understanding, while not constituting evidence that could be presented in the study, helped with the interpretation of the study's findings.

Being based in the UK for the period of this PhD research has put some strains on my academic practice, especially in terms of accessing the resources I needed to complete the study. In this respect I was helped greatly by my two academic supervisors, who gave me a good direction to follow and identified many fruitful areas of previous research to build on. Their help was also invaluable in reducing the questionnaire to a usable size and keeping it relevant to the airline sector and the service recovery and justice dimensions specific to that industry.

In closing, it is perhaps worth reiterating that the results of the study indicate a need for progress in three principal areas of the development of frontline staff in the airline industry:

They must be trained to be professional and courteous in their dealings with customers who have suffered a service failure; they must be empowered to take decisions (and incur costs) in order to resolve service failures in a timely manner; and finally they must be provided with the Information Technology infrastructure that allows them to understand the nature of a service failure and the options available to overcome it. If these conditions are met, the data of this study suggest that the result will be a favourable perception of the justice of service recovery efforts, and that this will contribute to the outcome of customer satisfaction and all the benefits accruing from that state.

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## **Appendix 1**

### **English Questionnaire**



**Dear Passenger:**

My name is Ayad Giuma Ayad. I am studying for my PhD at the University of Gloucestershire in the United Kingdom. I wonder whether you could help me by filling in this questionnaire, which is completely anonymous. It concerns your satisfaction with airline travel. I will come and pick the questionnaire up myself. I thank you very much for your time and assistance.

**Please tick or circle the answer that most closely matches your opinion**

**Flight experience**

**1. Purpose of travel**

Business                  Tourist                  visiting friends/relatives  
 Education                  Medical                  Other (please specify \_\_\_\_\_)

2. Which class are you travelling today?	Business	Economy
3. Are you satisfied with the fare you paid on this route?	Yes	No
4. Are you a frequent flyer with any of the Libyan-based airlines?	Yes	No
5. With which airline are you a frequent flyer?		
Libyan Airlines.	Yes	No
Fly Afriqiyah Airways.	Yes	No

Within the last 12 months how many times have you travelled using each of the following:

Name of company:	Number of trips
6- Libyan Airlines.	<input type="text"/>
7- Fly Afriqiyah Airways.	<input type="text"/>

9-Whilst travelling with any of the Libyan airlines, can you clearly recall a recent flight when you experienced a problem that you complained about to a member of airline staff during your trip?

Yes                                  (please go to the next question)  
 No                                    (please go to question 59)

10-When you made your complaint, with which airline were you travelling?

A-Libyan Airlines.                                    
 B-Fly Afriqiyah Airways                                 

Thinking about how you were treated when you complained, could you answer the following questions using the values from 1= strongly disagree to 5= strongly agree; use the values in Strongly disagree (1)      Disagree (2)      Neither agree nor disagree (3)      Agree (4)      Strongly agree (5)

<b>Service recovery compensation</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
11-The airline offered a good discount as part of the solution to my service problem.	1	2	3	4	5
12-The airline offered a good solution to my service problem.	1	2	3	4	5
13-The solution offered by the airline was acceptable to me.	1	2	3	4	5
14-The airline offered a good service fix.	1	2	3	4	5

<b>Service recovery speed</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
<b>15-The airline solved my problem and completed the recovery plan as soon as I reported the problem.</b>	1	2	3	4	5
<b>16-The airline completed the recovery plan quickly.</b>	1	2	3	4	5
<b>17- My problem was solved in one go and I did not need to ask for further help.</b>	1	2	3	4	5
<b>18-I was not kept waiting unnecessarily and a solution was found quickly.</b>	1	2	3	4	5

<b>Service recovery Apology</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
19-The airline said they were sorry for any inconvenience immediately.	1	2	3	4	5
20-The airline wrote an appropriate apology letter to me quickly.	1	2	3	4	5
21-The airline gave some appropriate compensation as an apology.	1	2	3	4	5
22-The airline gave me additional benefits as to kens of apology during the flight.	1	2	3	4	5

<b>Distributive Justice</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
23- It took me too long to get airline employees to resolve my problem.	1	2	3	4	5
24- The way my problem was resolved reflected the price I paid for the flight.	1	2	3	4	5
25- In resolving the problem the airline gave me what I needed.	1	2	3	4	5
26- To get my problem solved involved a lot of effort from me.	1	2	3	4	5
27-I was happy with the outcome.	1	2	3	4	5

<b>Procedural Justice</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
28-The airline procedures were fair.	1	2	3	4	5
29- The airline procedures were sensible.	1	2	3	4	5
30-The airline procedures were clear.	1	2	3	4	5
31-The airline procedures were streamlined.	1	2	3	4	5
32-The airline procedures did what I expected.	1	2	3	4	5
33-The procedures put the customer first.	1	2	3	4	5
34-The procedures made me feel important.	1	2	3	4	5
35-The procedures made me angry.	1	2	3	4	5

<b>Your overall responsiveness (Interactional Justice)</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
36-Employees were always willing to help you.	1	2	3	4	5
37-Employees were never too busy to respond to your request or complaint.	1	2	3	4	5
38. The behaviour of employees gave you confidence.	1	2	3	4	5
39-Employees had the knowledge to answer your questions.	1	2	3	4	5
40- The employees gave you individual attention.	1	2	3	4	5
41-The employees put the proper effort into resolving my problem	1	2	3	4	5
42-The employees' communications with me were appropriate.	1	2	3	4	5
43-The employees gave me the courtesy I was due.	1	2	3	4	5

***Overall justice:***

***44-In general, I believe that my complaint was treated fairly.***

Strongly disagree    Disagree    Neither agree nor disagree    Agree    Strongly agree

**45-Now in general, please could you rate the airline service you experienced when you travelled and made a complaint?**

Strongly disagree    Disagree    Neither agree nor disagree    Agree    Strongly agree

About your overall satisfaction With your flight	Strongly disagree	Disagree	neither agree nor disagree	Agree	Strongly agree
46- The airline online booking was easy. (if used)	1	2	3	4	5
47- Waiting time for check-in was unacceptable.	1	2	3	4	5
48- The airline flight boarding was efficient.	1	2	3	4	5
49- The flight departed and arrived at the promised times.	1	2	3	4	5
50- The airline provided good food and beverages.	1	2	3	4	5
51- Special meals are available. (If needed).	1	2	3	4	5
52- The plane was comfortable.	1	2	3	4	5
53- The plane was clean.	1	2	3	4	5
54- The airline left a negative impression.	1	2	3	4	5
55- I would not recommend this airline to my family and friends.	1	2	3	4	5
56- Next time I fly, I will change to another airline company.	1	2	3	4	5
57- The service I received was good.	1	2	3	4	5

**Overall satisfaction:**

**58-In general, I was satisfied with my flight/travel experience.**

Strongly disagree    Disagree    Neither agree nor disagree    Agree    Strongly agree

59- Please complete the following questions about yourself

**Gender**    male    female

**60-Age**    18-30    31-45    46-59    60+

**61-Job/Profession:** -----

**62-Education:** -----

**63-Who made the decision for you to travel with this airline?**

Yourself    Secretary

Travel agent    Family    Other (please specify-----)

**64-Nationality**

Please specify your nationality -----

**Thank you for your**

**Appendix 2**  
**Arabic Questionnaire**



الخطوط الجوية الأفريقية  
AFRIQIYAH AIRWAYS



## -استمارة استبيان-

حول موضوع

استكشاف انتعاش الخدمة ونظرية العدالة في صناعة الطيران الليبي  
موجه الي جمهور الزبائن لشركات الطيران الليبية -الخطوط الجوية الافريقية

الى الزبائن الاعزاء:

تحية طيبة وبعد...

في الوقت الذي اعبر لكم فيه عن تمنياتي الخالصة بالسلامة والتوفيق بقضاء وقت ممتع في رحلاتكم مع شركات الخطوط الجوية الليبية، فأنتى اضع بين ايديكم استمارة الاستبيان هذه، و التي صممت لاغراض جمع البيانات اللازمه لدراسة رضاء المستهلك مع التذكير بأن هذا البحث هو مشروع بحث علمى يقوم به الباحث لنيل درجة الدكتوراه فى ادارة الاعمال لذا أرجو التكرم بقراءة محتويات هذا الاستمارة قراءة واعية ومتأنية، ثم اختيار الاجابة المناسبة قرين كل سؤال من الاسئلة الواردة فيها، و كونوا على ثقة تامة بأن اجاباتكم عن اسئلة هذه الاستمارة ستستخدم لاغراض البحث العلمى فقط وستحاط بالسرية التامه، كما انها سوف تكون موضع اهتمام من قبلنا أيا كانت...  
أن مساهمتكم فى الادلاء ببيانات صحيحة وموضوعية ستساعد بصورة كبيرة فى تحقيق الاهداف المتوخاة من هذه البحث فى الوصول الى نتائج علمية و عملية والتي ستوظف انشاء الله فى تطوير رضاء المستهلك و الارتقاء به الى المستوى الذى يخدم تطلعاته فى التنمية وسيكون لكم كبير الفضل فى ذلك اذا ما أوليتم هذه الاستمارة العناية التى تستحق، ومنحتموها بعضا من وقتكم وكثيرا من صبركم وحرصكم وأبداء رائكم بكل ثقة وموضوعية...شاكرا لكم سلفا تعاونكم الكبير ومساعدتكم القيمة.

ولكم جزيل الشكر

عياد جمعة عياد  
جامعة قلوسترشير  
المملكة المتحدة

يرجى وضع علامة أو دائرة حول الإجابة الأكثر تطابقاً مع رأيك.

		1- الغرض من السفر
		عمل
		السياحية
		التعليم الطبي
		أخرى (يرجى التحديد.....)
الأعمال	الاقتصاد	2- ما هي الدرجة التي تسافرون عليها اليوم؟
		التجارية
لا	نعم	3- هل أنت راض عن المصاريف التي دفعتها .
لا	نعم	4- هل أنت من المسافرين الدائمين مع شركات الطيران الليبية.
		5- مع اي من شركات الطيران الآتية تسافر بشكل مستمر؟ .
لا	نعم	أ. الخطوط الجوية الليبية.
لا	نعم	ب. الخطوط الجوية الأفريقية.
		في غضون ال 12 شهرا الماضية كم عدد المرات التي سافرت فيها باستخدام كل من الشركات التالية:
		اسم الشركة :
		6- الخطوط الجوية الليبية.
		7- الخطوط الجوية الأفريقية الخطوط الجوية الليبية.

		8- حين سافرت مع أي من شركات الطيران الليبية ، هل يمكنك بوضوح تذكر الرحلة الاخيرة او الحديثة وهل واجهتك مشكلة و اشتكيت لعضو من موظفي شركة الطيران خلال رحلتك؟
		نعم ( يرجى الانتقال إلى السؤال التالي )
		لا (يرجى الانتقال إلى السؤال رقم 59)
		9- عندما قدمت شكواك ، مع اي من شركات الطيران كنت مسافرا ؟
		أ. الخطوط الجوية الليبية.
		ب- الخطوط الجوية الأفريقية.

كيف كانت المعاملة عندما قدمت شكواك . هل يمكن أن تجيب على الأسئلة التالية ، القيم من 1 = موافق بشدة إلى 5 = غير موافق بشدة، واستخدام القيم في

موافق بشدة (1) موافق (2) محايد(3) غير موافق (4) غير موافق بشدة (5)

خدمة الاسترداد والتعويض	موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة
11 - الشركة عرضت خصم جيد كجزء من حل مشكلة الخدمة.	1	2	3	4	5
12 - الشركة عرضت حلا جيدا للمشكلة.	1	2	3	4	5
13 - الحل التي قدمته الشركة كان مقبولا بالنسبة لي.	1	2	3	4	5
14 - الشركة عرضت عرضا جيدا لاصلاح الخدمة.	1	2	3	4	5

خدمة الانتعاش	موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة
15 - الطيران حل مشكلتي واستكمل خطة الإنعاش بأسرع وقت ممكن.	1	2	3	4	5
16 - كانت الشركة أنجزت خطة الانتعاش بسرعة.	1	2	3	4	5

5	4	3	2	1	17 - تم حل مشكلتي في دفعة واحدة وأنا لم اكن في حاجة لطلب مزيد من المساعدة.
5	4	3	2	1	18- لم انتظر دون داع ، ووجدو حل بسرعة .

غير موافق بشدة	غير موافق	محايد	موافق	موافق بشدة	الاعتذار
5	4	3	2	1	19-شركة الطيران قامت بعلاج المشكلة واعتذرت عن أي إزعاج على الفور.
5	4	3	2	1	20- الطيران كتب لي رسالة اعتذار مناسبة و بسرعة.
5	4	3	2	1	21 - كانت الشركة قدمت بعض التعويضات المناسبة عن الاعتذار.
5	4	3	2	1	22 - شركة الطيران أعطتني مزايا إضافية لإدراك الاعتذار أثناء الرحلة.

غير موافق بشدة	غير موافق	محايد	موافق	موافق بشدة	العدالة التوزيعية
5	4	3	2	1	23 - استغرقت وقتا طويلا في البحث على موظفي شركة الخطوط الجوية لحل مشكلتي.
5	4	3	2	1	24 - حل المشكلة ينعكس على السعر الذي دفعته من أجل هذه الرحلة.
5	4	3	2	1	25 - حلا للمشكلة شركة الطيران أعطتني ما احتاجه.
5	4	3	2	1	26 -المشكلةأخذت الكثير من الجهد مني.
5	4	3	2	1	27 - كنت سعيدا بالنتيجة.

غير موافق بشدة	غير موافق	محايد	موافق	موافق بشدة	العدلة الإجرائية
5	4	3	2	1	28 - اجراءات الخطوط الجوية كانت عادلة.
5	4	3	2	1	29 - شركات الطيران اجراءاتها معقولة.
5	4	3	2	1	30 - الطيران اجراءاته واضحة.
5	4	3	2	1	31-الطيران قام بتبسيط الإجراءات
5	4	3	2	1	32 - اجراءات شركات الطيران فعلت ما هو متوقع.
5	4	3	2	1	33- الإجراءات وضعت العميل في المقام الأول.
5	4	3	2	1	34 - الإجراءات جعلتني أشعر بانني مهم.
5	4	3	2	1	35- الإجراءات جعلتني غاضبا.

غير موافق بشدة	غير موافق	محايد	موافق	موافق بشدة	القدرة على الاستجابة الشاملة العدالة التفاعلية
5	4	3	2	1	36 - الموظفين كانوا دائما على استعداد لمساعدتي.
5	4	3	2	1	37- الموظفين لم يكونو مشغولين جدا للاستجابة لطلبي أو شكواي.
5	4	3	2	1	38- سلوك الموظفين منحي الثقة.
5	4	3	2	1	39 - الموظفين لديهم المعرفة للإجابة على اسئلتني.

5	4	3	2	1	40 - الموظفين أعطوني الاهتمام الفردي.
5	4	3	2	1	41- الموظفين بدلو الجهد المناسب لحل مشكلتي.
5	4	3	2	1	42 - اتصالات العاملين معي كانت مناسبة .
5	4	3	2	1	43- الموظفين اعطوني مجاملة اولي كانت مقرره لي.

44-بصفة عامه أعتقد أن شكاوى تلقت معاملة عادلة .  
موافق بشدة موافق محايد غير موافق غير موافق بشدة

45- بصفة عامة ، من فضلك هل واجهت مشاكل عندما سافرت وقدمت شكاواك؟

موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة	موافق بشدة موافق محايد غير موافق غير موافق بشدة عن الارتياح الخاص بك( الشامل)
5	4	3	2	1	46 - الحجز عبر الإنترنت في شركات الطيران كان سهلا. (في حال استخدامه).
5	4	3	2	1	47 - انتظار الوقت المناسب للفحص أمر غير مقبول.
5	4	3	2	1	48 - كانت رحلة الطيران الداخلية فعالة.
5	4	3	2	1	49- مغادرة الطائرة ووصولها في بعض الأحيان اوقت بما وعدت به.
5	4	3	2	1	50 - كانت الشركة قدمت المشروبات والطعام الجيد.
5	4	3	2	1	51 - وجود وجبات الطعام الخاصة متاحة. (إذا لزم الأمر).
5	4	3	2	1	52 - الطائرة كانت مريحة.
5	4	3	2	1	53 - الطائرة كانت نظيفة.
5	4	3	2	1	54 - الشركة تركت انطباعا سلبيا.
5	4	3	2	1	55 - أنا لا أوصي بهذه الشركة لعائلتي وأصدقائي.
5	4	3	2	1	56 - حينما اسافر في المرة القادمة ، سوف أقوم بالتغيير لشركة طيران أخرى.
5	4	3	2	1	57-مه التي تلقيتها كانت جيدة الخد

58- بشكل عام انا راض عن الخدمات المقدمة

موافق بشدة موافق محايد غير موافق غير موافق بشدة

59-الجنس ذكر أنثى

60-السن من (30-18) (45-31) (59-46) (+ 60)

61-الوظيفة / المهنة :

62-التعليم :

63- من الذي اتخذ قرار السفر لك مع شركات الطيران هذه؟

بنفسي السفر التحديد  
الأسرة  
السكرتيرة  
أطراف أخرى (يرجى  
وكالة  
(-----)

64- الجنسية  
يرجى تحديد جنسيتك  
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نشكر لكم حسن تعاونكم

## **Appendix 3**

### **Statistical Methods**

## Statistical Methods

Here, we explain the scope and methodology of statistical analysis in order to achieve our ultimate goal. In fact, we apply appropriate statistical methods to our dataset so that informative explanation and conclusion can be drawn. Importantly, the initial task is to formulate **factor analysis**, and then regression is conducted.

### Factor Analysis

Factor analysis is used, in this study, to develop the questionnaires of the study. In other word, the intention is to measure ability needed to ensure that the question asked relate to the dimension that is intended to measure.

### Regression Analysis

The relationship investing the effect of dimensions of interest on flight satisfaction will be investigated by constructing a linear regression model, whereas the degree of relationship is measured by simple or multiple linear correlations. Moreover, estimation and testing of our proposed model and correlations based on the dataset of interest are the most important target of this study. The start will be with introducing correlation coefficients. Then, a multiple regression model based on a linear relationship is presented.

### Simple and Multiple Correlations

It is very interesting to measure the degree of correlation between the all variables of interest via correlation coefficients. For a **simple correlation coefficient** ( $r$ ), the aim is to quantify the strength of relationship between two variables. The relationship is defined to be a very strong when  $r$  reaches +1 (upper limit) or -1 (lower limit). Notice that if the sign of  $r$  is negative, then the relationship is negative, otherwise the relationship is positive. The relationship is thought to be very weak providing  $r$  tends to be zero.

**Multiple correlation coefficient** ( $R$ ) is used to measure a degree of association between a set of exploratory variables and dependent variable (flight satisfaction). If we take the square of  $R$ , then the **determination of coefficient** ( $R^2$ ) is resulted, the purpose following this is to measure the proportion of the variation in satisfaction that explained by the exploratory

variables of proposed model. Note that  $R$  and is ranging from 0 to 1, while  $R^2$  is ranging from 0 to 100%.

### **Multiple linear regression analysis**

Multiple linear regression technique is concerned with determining a statistical model between a given variable (*dependent* variable) and a set of predictors (independent) variables. In terms of the study objectives, we build two linear models to investigate:

1. Model (1): the effect of service recovery and justice **dimensions** on flight satisfaction (dependent variable).
2. Model (2): the effect of service recovery and justice **items** on flight satisfaction (dependent variable).

After estimating the coefficients of (1) and (2) is important to test the significance of the overall multiple regression models. For each model, we state the null and alternative hypothesis.

In terms of model (1)

*Null hypothesis: there is no relationship between satisfaction and the recovery and justice dimensions.*

*Alternative hypothesis: there is a relationship between satisfaction and the recovery and justice dimension.*

For model (2)

*Null hypothesis: there is no relationship between satisfaction and the recovery and justice items.*

*Alternative hypothesis: there is a relationship satisfaction and the recovery and justice items.*

To test the above hypotheses, **F test** is computed for each model to observe whether the fitted linear models showing the relationship between the satisfaction and the other variables are significant. The results of  $F$  test are summarized in the table of analysis of variance (ANOVA). By using a 0.05 level of significant, the null hypothesis is rejected when  $p$ -value based on  $F$  test is less than 0.05.

In addition, it is essential to identify whether each independent variable in each model has a significant effect on the dependent variable. In order to achieve this, **t test** is used to decide the significant effect. If the  $p$ -value obtained by  $t$  test, for a particular independent variable,

is less than the level of significant which 0.05 is, we see that the independent variable has a significant effect. Note that if the sign of coefficient is positive, then we have positive effect, otherwise the effect is negative.

In multiple regression analysis, some predictor variables may not be capable for providing essential prediction in the satisfaction. As a result, it is better to build less complex model keeping a fewer set of predictor variables which clarify the best predication about variation in the satisfaction. For retaining the best set of predictor variables, forward **selection technique** will used in this research.

To analysis our dataset correctly two important assumptions of regression analysis: normality of residuals should be satisfied and independency of predictors should be checked. The lack of the assumptions results in all the tests used in regression analysis will lead to wrong judgment of accepting/rejecting the underlying hypothesis.

To check **normality**, histogram or P-P plot for standardized residuals are used. If observations are lying on or very close to the fitted line of P-P plot, then the normality is satisfied.

Sometimes, the predictor variables used in a regression model are highly correlated, this is known as **multicollinearity**. The effect of multicollinearity is that it be able to result in incorrect estimation of regression coefficients. To detect the presence of multicollinearity, variance-inflation factors (VIF) is computed to measure the severity of multicollinearity. VIF is computed for each exploratory variable using multiple correlations. If VIF for a particular predictor is more than 10, then there is high correlation between this variable and the remaining predictors. Thus, one solution is to exclude this variable from the underlying model in order to remove the harmful effect of multicollinearity caused by this predictor.

## **Appendix 4**

### **1- RELIABILITY ANALYSIS- SCALE**

#### **(ALPHA)**

\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*

### 1-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations

	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.6362	.3830	.9019	.5189	2.3546	.0383

Item-total Statistics

	Scale Mean If Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X11	9.0846	9.3045	.8392	.7228	.8033
X12	8.9783	9.2717	.8044	.8271	.8169
X13	8.8720	8.9836	.8088	.8247	.8151
X14	8.8169	11.9881	.5164	.4642	.9191

Reliability Coefficients 4 items

Alpha = .8785      Standardized item alpha = .8749

### 2-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations

	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.1386	-.1100	.2798	.3898	-2.5423	.0181

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X15	9.2441	4.4610	.3124	.1095	.1846
X16	9.3839	4.7577	.1849	.1508	.3151
X17	9.2402	4.4629	.2621	.0947	.2309
X18	9.6437	4.7466	.0669	.0672	.4703

Reliability Coefficients 4 items

Alpha = .3670      Standardized item alpha = .3916

\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*

### 3-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.2274	.1536	.2798	.1262	1.8215	.0035

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X15	6.3839	2.9036	.2517	.0695	.4372
X16	6.5236	2.4393	.3485	.1216	.2658
X17	6.3799	2.6621	.2770	.0858	.3976

Reliability Coefficients 3 items

Alpha = .4703      Standardized item alpha = .4689

### 4-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.5245	.2636	.7682	.5046	2.9140	.0455

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X19	7.8445	7.9265	.7524	.5904	.7090
X20	8.0728	8.1978	.7265	.6625	.7233
X21	8.0256	8.2577	.7382	.6305	.7187
X22	7.9882	10.3628	.3607	.1655	.8868

Reliability Coefficients 4 items

Alpha = .8150      Standardized item alpha = .8152

### 5-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.7237	.6844	.7682	.0838	1.1224	.0014

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X19	5.1890	4.8833	.7463	.5592	.8688
X20	5.4173	4.7604	.8095	.6601	.8122
X21	5.3701	4.9555	.7829	.6263	.8362

Reliability Coefficients 3 items

Alpha = .8868 Standardized item alpha = .8871

\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*

### 6-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.0686	-.4332	.8019	1.2350	-1.8512	.2623

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X23	13.2362	6.0388	.2538	.5740	-.0071
X24	13.0492	5.6840	.4072	.6697	-.1544
X25	14.1358	8.4095	-.1267	.3741	.3845
X26	13.0925	5.9895	.3087	.7084	-.0554
X27	14.1004	8.6743	-.1856	.4022	.4625

Reliability Coefficients 5 items

Alpha = .2064 Standardized item alpha = .2693

### 7-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.1987	-.3994	.8019	1.2012	-2.0079	.2973

Item-total Statistics

	Scale Mean if Item	Scale Variance if Item	Corrected Item- Total	Squared Multiple	Alpha if Item
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	Deleted	Deleted	Correlation	Correlation	Deleted
X23	10.4331	4.1711	.5985	.5082	.0036
X24	10.2461	4.4660	.6339	.6655	.0113
X25	11.3327	9.8871	-.3535	.1613	.8818
X26	10.2894	4.4901	.5810	.7083	.0539

Reliability Coefficients 4 items

Alpha = .4625 Standardized item alpha = .4980

## 8-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.4744	-.0857	.7575	.8432	-8.8446	.0825

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X28	20.8445	30.2697	.8108	.7384	.8576
X29	20.9783	30.8023	.7730	.6602	.8618
X30	20.9094	30.8044	.7811	.6533	.8610
X31	21.0000	30.3235	.8308	.7153	.8558
X32	20.9902	30.7751	.8053	.6848	.8587
X33	21.2520	31.9798	.6364	.4659	.8763
X34	21.1949	33.6207	.6066	.4769	.8786
X35	22.4016	40.7457	.0130	.0476	.9225

Reliability Coefficients 8 items

Alpha = .8877 Standardized item alpha = .8783

## 9-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.6294	.4863	.7575	.2713	1.5579	.0111

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X28	19.0217	29.2796	.8298	.7380	.9032
X29	19.1555	29.8594	.7867	.6595	.9077
X30	19.0866	29.9175	.7895	.6533	.9075
X31	19.1772	29.5070	.8333	.7120	.9030
X32	19.1673	29.8950	.8134	.6847	.9052
X33	19.4291	31.2514	.6287	.4556	.9242
X34	19.3720	32.5457	.6298	.4654	.9226

Reliability Coefficients 7 items

Alpha = .9225 Standardized item alpha = .9224

### 10-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.5826	.3340	.7381	.4041	2.2098	.0120

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X36	19.4075	46.3050	.8333	.7096	.8982
X37	19.6516	50.8350	.6042	.3936	.9166
X38	19.6693	49.2987	.6364	.4819	.9147
X39	19.5453	47.2149	.7968	.6700	.9015
X40	19.7165	48.5230	.7704	.6100	.9041
X41	19.5571	47.1072	.7940	.6768	.9016
X42	19.4803	46.2856	.7978	.6815	.9011
X43	19.7421	50.0971	.5963	.4289	.9178

Reliability Coefficients 8 items

Alpha = .9179 Standardized item alpha = .9178

\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*

### 11-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.1288	-.4526	.8216	1.2741	-1.8154	.1084

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X46	38.4488	27.9441	.5970	.6454	.5017
X47	38.9606	28.5349	.3710	.5392	.5358
X48	39.0512	30.8613	.3690	.2347	.5493
X49	39.6850	34.7487	-.1197	.5882	.6528
X50	38.6831	27.3175	.6149	.6679	.4928
X51	38.8484	27.5687	.4344	.6878	.5194
X52	38.7717	29.0681	.3302	.6329	.5454
X53	39.1280	31.1335	.1431	.3317	.5880
X54	38.9567	29.5997	.3275	.7317	.5475
X55	38.9567	29.6549	.3296	.7657	.5474

X56	39.0177	31.5007	.1115	.4140	.5955
X57	39.7067	35.4187	-.1531	.5837	.6519

Reliability Coefficients 12 items

Alpha = .5859 Standardized item alpha = .6395

### 12-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.1717	-.4526	.8216	1.2741	-1.8154	.0953

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X46	35.5906	27.9188	.6697	.6380	.5718
X47	36.1024	28.2775	.4470	.5319	.6008
X48	36.1929	32.0771	.3033	.2003	.6330
X49	36.8268	37.6228	-.2425	.4981	.7426
X50	35.8248	27.4939	.6621	.6627	.5683
X51	35.9902	27.4772	.4956	.6870	.5894
X52	35.9134	28.6158	.4225	.6098	.6060
X53	36.2697	33.4163	.0288	.2670	.6841
X54	36.0984	29.3118	.4113	.7274	.6101
X55	36.0984	29.3552	.4155	.7656	.6096
X56	36.1594	31.6294	.1505	.3805	.6615

Reliability Coefficients 11 items

Alpha = .6519 Standardized item alpha = .6951

### 13-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.2398	-.1855	.8216	1.0070	-4.4300	.0745

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X46	32.7106	29.4920	.7136	.6379	.6824
X47	33.2224	28.9662	.5590	.4670	.6962
X48	33.3130	34.7007	.2466	.1394	.7407
X50	32.9449	29.0463	.7047	.6612	.6802
X51	33.1102	28.7965	.5509	.6859	.6971
X52	33.0335	29.9298	.4814	.6083	.7093
X53	33.3898	37.1851	-.0747	.1552	.7954
X54	33.2185	30.5814	.4796	.7246	.7104
X55	33.2185	30.5222	.4940	.7411	.7084
X56	33.2795	34.2412	.1173	.3001	.7685

Reliability Coefficients 10 items

Alpha = .7426 Standardized item alpha = .7593

### 14-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.3085	-.1855	.8216	1.0070	-4.4300	.0658

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X46	29.2736	29.1222	.7114	.6343	.7497
X47	29.7854	28.0426	.6064	.4500	.7575
X48	29.8760	34.7124	.1983	.0905	.8047
X50	29.5079	28.6804	.7025	.6596	.7484
X51	29.6732	28.4729	.5453	.6840	.7668
X52	29.5965	29.2155	.5088	.5961	.7722
X54	29.7815	29.7608	.5180	.7229	.7709
X55	29.7815	29.6307	.5398	.7325	.7680
X56	29.8425	33.5531	.1355	.2993	.8272

Reliability Coefficients 9 items

Alpha = .7954 Standardized item alpha = .8006

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X46	25.7264	25.5483	.7534	.6332	.7835
X47	26.2382	24.6986	.6220	.4495	.7969
X48	26.3287	31.1008	.2072	.0890	.8425
X50	25.9606	25.0793	.7481	.6590	.7819
X51	26.1260	24.2563	.6389	.6627	.7943
X52	26.0492	25.3565	.5650	.5889	.8056
X54	26.2343	27.2488	.4438	.7223	.8217
X55	26.2343	27.2961	.4479	.7083	.8209

Alpha = .8272 Standardized item alpha = .8245

\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*

### 15-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.2274	.1536	.2798	.1262	1.8215	.0035

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X15	6.3839	2.9036	.2517	.0695	.4372
X16	6.5236	2.4393	.3485	.1216	.2658
X17	6.3799	2.6621	.2770	.0858	.3976

Reliability Coefficients 3 items

Alpha = .4703 Standardized item alpha = .4689

### 16-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.5245	.2636	.7682	.5046	2.9140	.0455

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X19	7.8445	7.9265	.7524	.5904	.7090
X20	8.0728	8.1978	.7265	.6625	.7233
X21	8.0256	8.2577	.7382	.6305	.7187
X22	7.9882	10.3628	.3607	.1655	.8868

Reliability Coefficients 4 items

Alpha = .8150 Standardized item alpha = .8152

### 17-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.7237	.6844	.7682	.0838	1.1224	.0014

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X19	5.1890	4.8833	.7463	.5592	.8688
X20	5.4173	4.7604	.8095	.6601	.8122
X21	5.3701	4.9555	.7829	.6263	.8362

Reliability Coefficients 3 items

Alpha = .8868                      Standardized item alpha = .8871

\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*

### 18-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.0686	-.4332	.8019	1.2350	-1.8512	.2623

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X23	13.2362	6.0388	.2538	.5740	-.0071
X24	13.0492	5.6840	.4072	.6697	-.1544
X25	14.1358	8.4095	-.1267	.3741	.3845
X26	13.0925	5.9895	.3087	.7084	-.0554
X27	14.1004	8.6743	-.1856	.4022	.4625

Reliability Coefficients 5 items

Alpha = .2064                      Standardized item alpha = .2693

### 19-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.1987	-.3994	.8019	1.2012	-2.0079	.2973

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X23	10.4331	4.1711	.5985	.5082	.0036
X24	10.2461	4.4660	.6339	.6655	.0113
X25	11.3327	9.8871	-.3535	.1613	.8818
X26	10.2894	4.4901	.5810	.7083	.0539

Reliability Coefficients 4 items

Alpha = .4625                      Standardized item alpha = .4980

## 20-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.4744	-.0857	.7575	.8432	-8.8446	.0825

### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X28	20.8445	30.2697	.8108	.7384	.8576
X29	20.9783	30.8023	.7730	.6602	.8618
X30	20.9094	30.8044	.7811	.6533	.8610
X31	21.0000	30.3235	.8308	.7153	.8558
X32	20.9902	30.7751	.8053	.6848	.8587
X33	21.2520	31.9798	.6364	.4659	.8763
X34	21.1949	33.6207	.6066	.4769	.8786
X35	22.4016	40.7457	.0130	.0476	.9225

Reliability Coefficients 8 items

Alpha = .8877 Standardized item alpha = .8783

## 21-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.6294	.4863	.7575	.2713	1.5579	.0111

### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X28	19.0217	29.2796	.8298	.7380	.9032
X29	19.1555	29.8594	.7867	.6595	.9077
X30	19.0866	29.9175	.7895	.6533	.9075
X31	19.1772	29.5070	.8333	.7120	.9030
X32	19.1673	29.8950	.8134	.6847	.9052
X33	19.4291	31.2514	.6287	.4556	.9242
X34	19.3720	32.5457	.6298	.4654	.9226

Reliability Coefficients 7 items

Alpha = .9225 Standardized item alpha = .9224

## 22-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
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.5826 .3340 .7381 .4041 2.2098 .0120

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X36	19.4075	46.3050	.8333	.7096	.8982
X37	19.6516	50.8350	.6042	.3936	.9166
X38	19.6693	49.2987	.6364	.4819	.9147
X39	19.5453	47.2149	.7968	.6700	.9015
X40	19.7165	48.5230	.7704	.6100	.9041
X41	19.5571	47.1072	.7940	.6768	.9016
X42	19.4803	46.2856	.7978	.6815	.9011
X43	19.7421	50.0971	.5963	.4289	.9178

Reliability Coefficients 8 items

Alpha = .9179 Standardized item alpha = .9178

\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*

**23-RELIABILITY ANALYSIS - SCALE (ALPHA)**

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.1288	-.4526	.8216	1.2741	-1.8154	.1084

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X46	38.4488	27.9441	.5970	.6454	.5017
X47	38.9606	28.5349	.3710	.5392	.5358
X48	39.0512	30.8613	.3690	.2347	.5493
X49	39.6850	34.7487	-.1197	.5882	.6528
X50	38.6831	27.3175	.6149	.6679	.4928
X51	38.8484	27.5687	.4344	.6878	.5194
X52	38.7717	29.0681	.3302	.6329	.5454
X53	39.1280	31.1335	.1431	.3317	.5880
X54	38.9567	29.5997	.3275	.7317	.5475
X55	38.9567	29.6549	.3296	.7657	.5474
X56	39.0177	31.5007	.1115	.4140	.5955
X57	39.7067	35.4187	-.1531	.5837	.6519

Reliability Coefficients 12 items

Alpha = .5859 Standardized item alpha = .6395

**24-RELIABILITY ANALYSIS - SCALE (ALPHA)**

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.1717	-.4526	.8216	1.2741	-1.8154	.0953

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X46	35.5906	27.9188	.6697	.6380	.5718
X47	36.1024	28.2775	.4470	.5319	.6008
X48	36.1929	32.0771	.3033	.2003	.6330
X49	36.8268	37.6228	-.2425	.4981	.7426
X50	35.8248	27.4939	.6621	.6627	.5683
X51	35.9902	27.4772	.4956	.6870	.5894
X52	35.9134	28.6158	.4225	.6098	.6060
X53	36.2697	33.4163	.0288	.2670	.6841
X54	36.0984	29.3118	.4113	.7274	.6101
X55	36.0984	29.3552	.4155	.7656	.6096
X56	36.1594	31.6294	.1505	.3805	.6615

Reliability Coefficients 11 items

Alpha = .6519 Standardized item alpha = .6951

## 25-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.2398	-.1855	.8216	1.0070	-4.4300	.0745

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X46	32.7106	29.4920	.7136	.6379	.6824
X47	33.2224	28.9662	.5590	.4670	.6962
X48	33.3130	34.7007	.2466	.1394	.7407
X50	32.9449	29.0463	.7047	.6612	.6802
X51	33.1102	28.7965	.5509	.6859	.6971
X52	33.0335	29.9298	.4814	.6083	.7093
X53	33.3898	37.1851	-.0747	.1552	.7954
X54	33.2185	30.5814	.4796	.7246	.7104
X55	33.2185	30.5222	.4940	.7411	.7084
X56	33.2795	34.2412	.1173	.3001	.7685

Reliability Coefficients 10 items

Alpha = .7426 Standardized item alpha = .7593

## 26-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.3085	-.1855	.8216	1.0070	-4.4300	.0658

Item-total Statistics

Scale Mean	Scale Variance	Corrected Item-	Squared	Alpha
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	if Item Deleted	if Item Deleted	Total Correlation	Multiple Correlation	if Item Deleted
X46	29.2736	29.1222	.7114	.6343	.7497
X47	29.7854	28.0426	.6064	.4500	.7575
X48	29.8760	34.7124	.1983	.0905	.8047
X50	29.5079	28.6804	.7025	.6596	.7484
X51	29.6732	28.4729	.5453	.6840	.7668
X52	29.5965	29.2155	.5088	.5961	.7722
X54	29.7815	29.7608	.5180	.7229	.7709
X55	29.7815	29.6307	.5398	.7325	.7680
X56	29.8425	33.5531	.1355	.2993	.8272

Reliability Coefficients 9 items

Alpha = .7954 Standardized item alpha = .8006

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X46	25.7264	25.5483	.7534	.6332	.7835
X47	26.2382	24.6986	.6220	.4495	.7969
X48	26.3287	31.1008	.2072	.0890	.8425
X50	25.9606	25.0793	.7481	.6590	.7819
X51	26.1260	24.2563	.6389	.6627	.7943
X52	26.0492	25.3565	.5650	.5889	.8056
X54	26.2343	27.2488	.4438	.7223	.8217
X55	26.2343	27.2961	.4479	.7083	.8209

Alpha = .8272 Standardized item alpha = .8245

\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*

## 27-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.6362	.3830	.9019	.5189	2.3546	.0383

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X11	9.0846	9.3045	.8392	.7228	.8033
X12	8.9783	9.2717	.8044	.8271	.8169
X13	8.8720	8.9836	.8088	.8247	.8151
X14	8.8169	11.9881	.5164	.4642	.9191

Reliability Coefficients 4 items

Alpha = .8785 Standardized item alpha = .8749

## 28-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.1386	-.1100	.2798	.3898	-2.5423	.0181

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X15	9.2441	4.4610	.3124	.1095	.1846
X16	9.3839	4.7577	.1849	.1508	.3151
X17	9.2402	4.4629	.2621	.0947	.2309
X18	9.6437	4.7466	.0669	.0672	.4703

Reliability Coefficients 4 items

Alpha = .3670                      Standardized item alpha = .3916

## 29-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.2274	.1536	.2798	.1262	1.8215	.0035

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X15	6.3839	2.9036	.2517	.0695	.4372
X16	6.5236	2.4393	.3485	.1216	.2658
X17	6.3799	2.6621	.2770	.0858	.3976

Reliability Coefficients 3 items

Alpha = .4703                      Standardized item alpha = .4689

## 30-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.5245	.2636	.7682	.5046	2.9140	.0455

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X19	7.8445	7.9265	.7524	.5904	.7090
X20	8.0728	8.1978	.7265	.6625	.7233
X21	8.0256	8.2577	.7382	.6305	.7187
X22	7.9882	10.3628	.3607	.1655	.8868

Reliability Coefficients 4 items

Alpha = .8150 Standardized item alpha = .8152

### 31-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.7237	.6844	.7682	.0838	1.1224	.0014

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X19	5.1890	4.8833	.7463	.5592	.8688
X20	5.4173	4.7604	.8095	.6601	.8122
X21	5.3701	4.9555	.7829	.6263	.8362

Reliability Coefficients 3 items

Alpha = .8868 Standardized item alpha = .8871

\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*

### 32-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.0686	-.4332	.8019	1.2350	-1.8512	.2623

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X23	13.2362	6.0388	.2538	.5740	-.0071
X24	13.0492	5.6840	.4072	.6697	-.1544
X25	14.1358	8.4095	-.1267	.3741	.3845
X26	13.0925	5.9895	.3087	.7084	-.0554

X27            14.1004            8.6743            -.1856            .4022            .4625

Reliability Coefficients    5 items

Alpha =    .2064            Standardized item alpha =    .2693

### 33-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases =    508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.1987	-.3994	.8019	1.2012	-2.0079	.2973

Item-total Statistics

Mean	Scale Variance if Item Deleted	Scale Item- Variance if Item Deleted	Corrected Squared Total Correlation	Alpha Multiple Correlation	Alpha if Item Deleted
X23	10.4331	4.1711	.5985	.5082	.0036
X24	10.2461	4.4660	.6339	.6655	.0113
X25	11.3327	9.8871	-.3535	.1613	.8818
X26	10.2894	4.4901	.5810	.7083	.0539

Reliability Coefficients    4 items

Alpha =    .4625            Standardized item alpha =    .4980

### 34-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases =    508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.4744	-.0857	.7575	.8432	-8.8446	.0825

Item-total Statistics

Mean	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X28	20.8445	30.2697	.8108	.7384	.8576
X29	20.9783	30.8023	.7730	.6602	.8618
X30	20.9094	30.8044	.7811	.6533	.8610
X31	21.0000	30.3235	.8308	.7153	.8558
X32	20.9902	30.7751	.8053	.6848	.8587
X33	21.2520	31.9798	.6364	.4659	.8763
X34	21.1949	33.6207	.6066	.4769	.8786
X35	22.4016	40.7457	.0130	.0476	.9225

Reliability Coefficients    8 items

Alpha =    .8877            Standardized item alpha =    .8783

### 35-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.6294	.4863	.7575	.2713	1.5579	.0111

#### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X28	19.0217	29.2796	.8298	.7380	.9032
X29	19.1555	29.8594	.7867	.6595	.9077
X30	19.0866	29.9175	.7895	.6533	.9075
X31	19.1772	29.5070	.8333	.7120	.9030
X32	19.1673	29.8950	.8134	.6847	.9052
X33	19.4291	31.2514	.6287	.4556	.9242
X34	19.3720	32.5457	.6298	.4654	.9226

Reliability Coefficients 7 items

Alpha = .9225 Standardized item alpha = .9224

### 36-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.5826	.3340	.7381	.4041	2.2098	.0120

#### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X36	19.4075	46.3050	.8333	.7096	.8982
X37	19.6516	50.8350	.6042	.3936	.9166
X38	19.6693	49.2987	.6364	.4819	.9147
X39	19.5453	47.2149	.7968	.6700	.9015
X40	19.7165	48.5230	.7704	.6100	.9041
X41	19.5571	47.1072	.7940	.6768	.9016
X42	19.4803	46.2856	.7978	.6815	.9011
X43	19.7421	50.0971	.5963	.4289	.9178

Reliability Coefficients 8 items

Alpha = .9179 Standardized item alpha = .9178

\*\*\*\*\* Method 2 (covariance matrix) will be used for this analysis \*\*\*\*\*

### 37-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.1288	-.4526	.8216	1.2741	-1.8154	.1084

#### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X46	38.4488	27.9441	.5970	.6454	.5017
X47	38.9606	28.5349	.3710	.5392	.5358
X48	39.0512	30.8613	.3690	.2347	.5493
X49	39.6850	34.7487	-.1197	.5882	.6528
X50	38.6831	27.3175	.6149	.6679	.4928
X51	38.8484	27.5687	.4344	.6878	.5194
X52	38.7717	29.0681	.3302	.6329	.5454
X53	39.1280	31.1335	.1431	.3317	.5880
X54	38.9567	29.5997	.3275	.7317	.5475
X55	38.9567	29.6549	.3296	.7657	.5474
X56	39.0177	31.5007	.1115	.4140	.5955
X57	39.7067	35.4187	-.1531	.5837	.6519

Reliability Coefficients 12 items

Alpha = .5859 Standardized item alpha = .6395

### 38-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.1717	-.4526	.8216	1.2741	-1.8154	.0953

#### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X46	35.5906	27.9188	.6697	.6380	.5718
X47	36.1024	28.2775	.4470	.5319	.6008
X48	36.1929	32.0771	.3033	.2003	.6330
X49	36.8268	37.6228	-.2425	.4981	.7426
X50	35.8248	27.4939	.6621	.6627	.5683
X51	35.9902	27.4772	.4956	.6870	.5894
X52	35.9134	28.6158	.4225	.6098	.6060
X53	36.2697	33.4163	.0288	.2670	.6841
X54	36.0984	29.3118	.4113	.7274	.6101
X55	36.0984	29.3552	.4155	.7656	.6096
X56	36.1594	31.6294	.1505	.3805	.6615

Reliability Coefficients 11 items

Alpha = .6519 Standardized item alpha = .6951

#### 40-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.2398	-.1855	.8216	1.0070	-4.4300	.0745

##### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X46	32.7106	29.4920	.7136	.6379	.6824
X47	33.2224	28.9662	.5590	.4670	.6962
X48	33.3130	34.7007	.2466	.1394	.7407
X50	32.9449	29.0463	.7047	.6612	.6802
X51	33.1102	28.7965	.5509	.6859	.6971
X52	33.0335	29.9298	.4814	.6083	.7093
X53	33.3898	37.1851	-.0747	.1552	.7954
X54	33.2185	30.5814	.4796	.7246	.7104
X55	33.2185	30.5222	.4940	.7411	.7084
X56	33.2795	34.2412	.1173	.3001	.7685

Reliability Coefficients 10 items

Alpha = .7426 Standardized item alpha = .7593

#### 41-RELIABILITY ANALYSIS - SCALE (ALPHA)

N of Cases = 508.0

Inter-item Correlations	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.3085	-.1855	.8216	1.0070	-4.4300	.0658

##### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X46	29.2736	29.1222	.7114	.6343	.7497
X47	29.7854	28.0426	.6064	.4500	.7575
X48	29.8760	34.7124	.1983	.0905	.8047
X50	29.5079	28.6804	.7025	.6596	.7484
X51	29.6732	28.4729	.5453	.6840	.7668
X52	29.5965	29.2155	.5088	.5961	.7722
X54	29.7815	29.7608	.5180	.7229	.7709
X55	29.7815	29.6307	.5398	.7325	.7680
X56	29.8425	33.5531	.1355	.2993	.8272

Reliability Coefficients 9 items

Alpha = .7954 Standardized item alpha = .8006

##### Item-total Statistics

Scale	Scale	Corrected
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	Mean if Item Deleted	Variance if Item Deleted	Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
X46	25.7264	25.5483	.7534	.6332	.7835
X47	26.2382	24.6986	.6220	.4495	.7969
X48	26.3287	31.1008	.2072	.0890	.8425
X50	25.9606	25.0793	.7481	.6590	.7819
X51	26.1260	24.2563	.6389	.6627	.7943
X52	26.0492	25.3565	.5650	.5889	.8056
X54	26.2343	27.2488	.4438	.7223	.8217
X55	26.2343	27.2961	.4479	.7083	.8209

Alpha = .8272

Standardized item alpha = .8245

## **Appendix 4**

### **Correlations and Regression**

### Correlations

		satisfied with fight/travel	Service recovery compensation	Service recovery Apology	Distributive Justice	Procedural Justice	Interactional Justice
satisfied with fight/travel	Pearson Correlation	1.000	-.382*	-.253*	.453*	.129*	-.298*
	Sig. (2-tailed)		.000	.000	.000	.004	.000
	N	508	508	508	508	508	508
Service recovery compensation	Pearson Correlation	-.382*	1.000	.604*	-.512*	.302*	.759*
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	508	508	508	508	508	508
Service recovery Apology	Pearson Correlation	-.253*	.604*	1.000	-.106*	.309*	.615*
	Sig. (2-tailed)	.000	.000		.017	.000	.000
	N	508	508	508	508	508	508
Distributive Justice	Pearson Correlation	.453*	-.512*	-.106*	1.000	-.130*	-.341*
	Sig. (2-tailed)	.000	.000	.017		.003	.000
	N	508	508	508	508	508	508
Procedural Justice	Pearson Correlation	.129*	.302*	.309*	-.130*	1.000	.374*
	Sig. (2-tailed)	.004	.000	.000	.003		.000
	N	508	508	508	508	508	508
Interactional Justice	Pearson Correlation	-.298*	.759*	.615*	-.341*	.374*	1.000
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	508	508	508	508	508	508

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

### 3- Regression

**Variables Entered/Removed<sup>a</sup>**

Model	Variables Entered	Variables Removed	Method
1	Distributive Justice		Forward (Criterion: Probability -of -F-to-en ter <= .050)
2	Service recovery Apology		Forward (Criterion: Probability -of -F-to-en ter <= .050)
3	Procedural Justice		Forward (Criterion: Probability -of -F-to-en ter <= .050)
4	Interaction al Justice		Forward (Criterion: Probability -of -F-to-en ter <= .050)

a. Dependent Variable: satisfied with flight/travel

**Model Summary<sup>e</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.453 <sup>a</sup>	.205	.204	.8112077
2	.498 <sup>b</sup>	.248	.245	.7900018
3	.563 <sup>c</sup>	.317	.313	.7534882
4	.571 <sup>d</sup>	.326	.320	.7493983

a. Predictors: (Constant), Distributive Justice

b. Predictors: (Constant), Distributive Justice, Service recovery Apology

c. Predictors: (Constant), Distributive Justice, Service recovery Apology, Procedural Justice

d. Predictors: (Constant), Distributive Justice, Service recovery Apology, Procedural Justice, Interactional Justice

e. Dependent Variable: satisfied with flight/travel

**ANOVA<sup>e</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	86.007	1	86.007	130.698	.000 <sup>a</sup>
	Residual	332.977	506	.658		
	Total	418.984	507			
2	Regression	103.812	2	51.906	83.169	.000 <sup>b</sup>
	Residual	315.172	505	.624		
	Total	418.984	507			
3	Regression	132.841	3	44.280	77.993	.000 <sup>c</sup>
	Residual	286.143	504	.568		
	Total	418.984	507			
4	Regression	136.500	4	34.125	60.764	.000 <sup>d</sup>
	Residual	282.484	503	.562		
	Total	418.984	507			

a. Predictors: (Constant), Distributive Justice

b. Predictors: (Constant), Distributive Justice, Service recovery Apology

c. Predictors: (Constant), Distributive Justice, Service recovery Apology, Procedural Justice

d. Predictors: (Constant), Distributive Justice, Service recovery Apology, Procedural Justice, Interactional Justice

e. Dependent Variable: satisfied with fight/travel

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	2.338	.135			17.352	.000		
	Distributive Justice	.393	.034	.453		11.432	.000	1.000	1.000
	Service recovery Apology								
	Procedural Justice								
	Interactional Justice								
2	(Constant)	2.878	.166			17.377	.000		
	Distributive Justice	.374	.034	.431		11.108	.000	.989	1.011
	Service recovery Apology	-.176	.033	-.207		-5.341	.000	.989	1.011
	Procedural Justice								
	Interactional Justice								
3	(Constant)	2.088	.193			10.832	.000		
	Distributive Justice	.398	.032	.458		12.319	.000	.978	1.022
	Service recovery Apology	-.246	.033	-.290		-7.482	.000	.900	1.111
	Procedural Justice	.277	.039	.278		7.151	.000	.895	1.117
	Interactional Justice								
4	(Constant)	2.307	.210			10.983	.000		
	Distributive Justice	.368	.034	.424		10.789	.000	.866	1.155
	Service recovery Apology	-.187	.040	-.221		-4.683	.000	.602	1.661
	Procedural Justice	.300	.040	.301		7.580	.000	.850	1.177
	Interactional Justice	-.122	.048	-.130		-2.553	.011	.517	1.934

a. Dependent Variable: satisfied with fight/travel

**Excluded Variables**

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics			
					Tolerance	VIF	Minimum Tolerance	
1	Service recovery compensation <sup>a</sup>	-204	-4.502	.000	-.196	.738	1.356	.738
	Service recovery Apology	-.207 <sup>a</sup>	-5.341	.000	-.231	.989	1.011	.989
	Procedural Justice	.191 <sup>a</sup>	4.890	.000	.213	.983	1.017	.983
	Interactional Justice	-.162 <sup>a</sup>	-3.906	.000	-.171	.884	1.131	.884
2	Service recovery compensation <sup>b</sup>	-.084	-1.435	.152	-.064	.432	2.317	.432
	Service recovery Apology	.278 <sup>b</sup>	7.151	.000	.303	.895	1.117	.895
	Procedural Justice	-.043 <sup>b</sup>	-.823	.411	-.037	.545	1.836	.545
3	Service recovery compensation <sup>c</sup>	-.132	-2.352	.019	-.104	.426	2.348	.426
	Service recovery Apology	-.130 <sup>c</sup>	-2.553	.011	-.113	.517	1.934	.517
	Procedural Justice	-.078 <sup>d</sup>	-1.174	.241	-.052	.305	3.280	.305
4	Service recovery compensation	-.078 <sup>d</sup>	-1.174	.241	-.052	.305	3.280	.305
	Service recovery Apology							
	Procedural Justice							
	Interactional Justice							

a. Predictors in the Model: (Constant), Distributive Justice

b. Predictors in the Model: (Constant), Distributive Justice, Service recovery Apology

c. Predictors in the Model: (Constant), Distributive Justice, Service recovery Apology, Procedural Justice

d. Predictors in the Model: (Constant), Distributive Justice, Service recovery Apology, Procedural Justice, Interactional Justice

e. Dependent Variable: satisfied with fight/travel

**Collinearity Diagnostics<sup>a</sup>**

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	Distributive Justice	Service recovery Apology	Procedural Justice	Interactional Justice
1	1	1.964	1.000	.02	.02			
	2	3.634E-02	7.351	.98	.98			
	3							
	4							
	5							
2	1	2.850	1.000	.01	.01	.02		
	2	.121	4.846	.01	.20	.70		
	3	2.845E-02	10.010	.98	.79	.28		
	4							
	5							
3	1	3.789	1.000	.00	.00	.01	.00	
	2	.122	5.563	.01	.23	.55	.01	
	3	6.699E-02	7.521	.00	.17	.40	.62	
	4	2.125E-02	13.355	.99	.59	.04	.37	
	5							
4	1	4.718	1.000	.00	.00	.00	.00	.00
	2	.153	5.551	.01	.20	.13	.00	.08
	3	6.834E-02	8.309	.00	.11	.45	.44	.02
	4	4.283E-02	10.496	.03	.01	.38	.42	.62
	5	1.765E-02	16.351	.96	.68	.03	.13	.28

a. Dependent Variable: satisfied with fight/travel

**Casewise Diagnostics<sup>a</sup>**

Case Number	Std. Residual	satisfied with fight/travel
55	-3.180	2.20000
112	-4.267	1.00000

a. Dependent Variable: satisfied with fight/travel

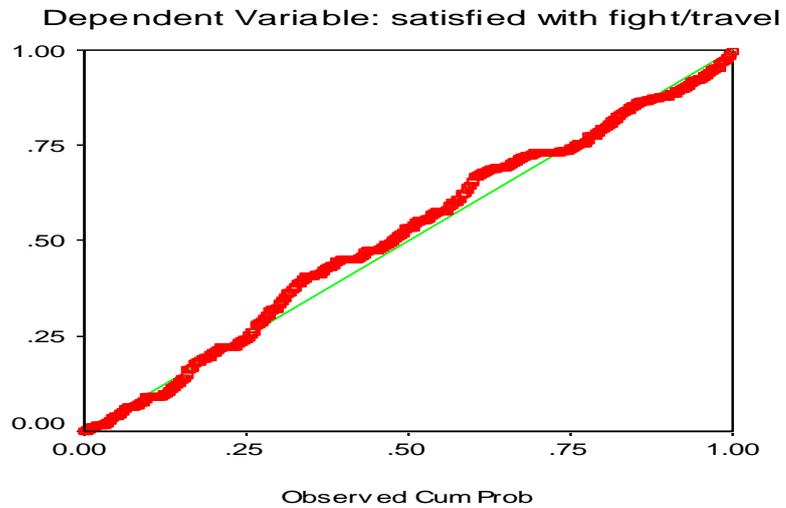
**Residuals Statistics<sup>a</sup>**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.5852849	5.1677203	3.8224409	.5188754	508
Residual	-3.1979990	1.9001961	2.51E-15	.7464362	508
Std. Predicted Value	-2.384	2.593	.000	1.000	508
Std. Residual	-4.267	2.536	.000	.996	508

a. Dependent Variable: satisfied with fight/travel

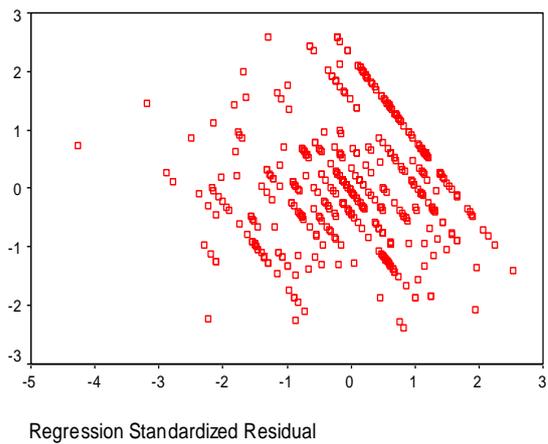
## 4- Charts

Normal P-P Plot of Regression Standardized Residual



Scatterplot

Dependent Variable: satisfied with fight/travel



## 5- a- Factor Analysis

### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy .			.821
Bartlett's Test of Sphericity	Approx. Chi-Square	2459.960	
	df	15	
	Sig.	.000	

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.039	67.319	67.319	4.039	67.319	67.319	2.575	42.913	42.913
2	1.058	17.635	84.954	1.058	17.635	84.954	2.522	42.041	84.954
3	.311	5.177	90.131						
4	.281	4.686	94.817						
5	.217	3.619	98.437						
6	9.379E-02	1.563	100.000						

Extraction Method: Principal Component Analysis.

**Component Matrix<sup>a</sup>**

	Component	
	1	2
The airline offered a good discount as part of the solution to my service problem.	.862	-.194
The airline offered a good solution to my service problem.	.820	-.508
The solution offered by the airline was acceptable to me.	.832	-.474
The airline said they were sorry for any inconvenience immediately.	.839	.261
The airline wrote an appropriate apology letter to me quickly.	.784	.502
The airline gave some appropriate compensation as an apology.	.783	.467

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

**Rotated Component Matrix**

	Component	
	1	2
The airline offered a good discount as part of the solution to my service problem.	.751	.466
The airline offered a good solution to my service problem.	.941	.212
The solution offered by the airline was acceptable to me.	.926	.245
The airline said they were sorry for any inconvenience immediately.	.415	.775
The airline wrote an appropriate apology letter to me quickly.	.208	.907
The airline gave some appropriate compensation as an apology.	.231	.882

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

a. Rotation converged in 3 iterations.

**Component Transformation Matrix**

Component	1	2
1	.713	.701
2	-.701	.713

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

**5 b- Factor Analysis**

**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy .		.894
Bartlett's Test of Sphericity	Approx. Chi-Square	6652.440
	df	153
	Sig.	.000

### Communalities

	Initial	Extraction
It took me too long to get airline employees to resolve my problem.	1.000	.744
The way my problem was resolved reflected the price I paid for the flight.	1.000	.818
To get my problem solved involved a lot of effort from me.	1.000	.840
The airline procedures were fair.	1.000	.782
The airline procedures were sensible.	1.000	.728
The airline procedures were clear.	1.000	.733
The airline procedures were streamlined.	1.000	.788
The airline procedures did what I expected.	1.000	.765
The procedures put the customer first.	1.000	.524
The procedures made me feel important.	1.000	.513
Employees were always willing to help you.	1.000	.771
Employees were never too busy to respond to your request or complaint.	1.000	.556
The behaviour of employees gave you confidence.	1.000	.562
Employees had the knowledge to answer your questions.	1.000	.734
The employees gave you individual attention.	1.000	.700
The employees put the proper effort into resolving my problem	1.000	.733
The employees' communications with me were appropriate.	1.000	.744
The employees gave me the courtesy I was due.	1.000	.469

Extraction Method: Principal Component Analysis.



### Component Matrix<sup>a</sup>

	Component		
	1	2	3
It took me too long to get airline employees to resolve my problem.	-.409	.422	.631
The way my problem was resolved reflected the price I paid for the flight.	-.374	.366	.738
To get my problem solved involved a lot of effort from me.	-.369	.382	.747
The airline procedures were fair.	.708	.525	-6.694E-02
The airline procedures were sensible.	.656	.537	-9.772E-02
The airline procedures were clear.	.640	.556	-.122
The airline procedures were streamlined.	.677	.570	-7.726E-02
The airline procedures did what I expected.	.666	.549	-.143
The procedures put the customer first.	.519	.503	-4.235E-02
The procedures made me feel important.	.599	.391	2.448E-02
Employees were always willing to help you.	.769	-.365	.216
Employees were never too busy to respond to your request or complaint.	.545	-.269	.432
The behaviour of employees gave you confidence.	.626	-.412	-1.152E-02
Employees had the knowledge to answer your questions.	.766	-.353	.151
The employees gave you individual attention.	.714	-.357	.250
The employees put the proper effort into resolving my problem	.743	-.402	.140
The employees' communications with me were appropriate.	.746	-.326	.283
The employees gave me the courtesy I was due.	.604	-.204	.248

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

**Rotated Component Matrix**

	Component		
	1	2	3
It took me too long to get airline employees to resolve my problem.	-.226	-2.589E-02	.832
The way my problem was resolved reflected the price I paid for the flight.	-.123	-6.157E-02	.894
To get my problem solved involved a lot of effort from me.	-.124	-4.787E-02	.907
The airline procedures were fair.	.207	.858	-4.906E-02
The airline procedures were sensible.	.149	.838	-5.737E-02
The airline procedures were clear.	.117	.846	-6.662E-02
The airline procedures were streamlined.	.156	.873	-3.214E-02
The airline procedures did what I expected.	.129	.860	-9.533E-02
The procedures put the customer first.	9.292E-02	.718	1.598E-02
The procedures made me feel important.	.240	.675	8.850E-03
Employees were always willing to help you.	.843	.182	-.164
Employees were never too busy to respond to your request or complaint.	.730	8.257E-02	.125
The behaviour of employees gave you confidence.	.661	8.643E-02	-.343
Employees had the knowledge to answer your questions.	.805	.199	-.216
The employees gave you individual attention.	.815	.148	-.116
The employees put the proper effort into resolving my problem	.809	.148	-.238
The employees' communications with me were appropriate.	.837	.188	-8.388E-02
The employees gave me the courtesy I was due.	.655	.195	-2.782E-02

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

a. Rotation converged in 5 iterations.

### Component Transformation Matrix

Component	1	2	3
1	.721	.636	-.275
2	-.521	.760	.390
3	.457	-.138	.879

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

#### 5 c- Factor Analysis

#### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy .		.914
Bartlett's Test of Sphericity	Approx. Chi-Square	19160.615
	df	990
	Sig.	.000

**Com m unal i t i es**

	I n t i a l	E x t r a c t i o n
The ar he offered a g discount as part of t solution to my service problem .	1. 000	. 761
The ar he offered a g solution to my service problem .	1. 000	. 800
The solution offered b ar he was acceptable to me.	1. 000	. 770
The ar he offered a g service fix.	1. 000	. 548
The ar he solved my problem and complete the recovery plan as as I reported the pr	1. 000	. 374
The ar he completed t recovery plan quickly.	1. 000	. 432
My problem was solve one go and I did not to ask for further h	1. 000	. 509
I was not kept waiting unnecessarily and a solution was found quic	1. 000	. 812
The ar he said they we sorry for any inconvenience immediately.	1. 000	. 731
The ar he wrote an appropriate apology letter to me quickly.	1. 000	. 739
The ar he gave some appropriate compensation as an apology.	1. 000	. 752
The ar he gave me additional benefits as tokens of apology during fight .	1. 000	. 752
It took me too long ar he employees to resolve my problem .	1. 000	. 733
The way my problem resolved reflected the I paid for the fight .	1. 000	. 794
In resolving the problem the ar he gave me what needed.	1. 000	. 696
To get my problem solved involved a bit of effort from me.	1. 000	. 797
I was happy with the outcome.	1. 000	. 816
The ar he procedures were fair .	1. 000	. 818
The ar he procedures were sensible.	1. 000	. 758
The ar he procedures were clear .	1. 000	. 767
The ar he procedures were streamlined.	1. 000	. 800
The ar he procedures were what I expected.	1. 000	. 766
The procedures put the customer first .	1. 000	. 699

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	14.379	31.953	31.953	14.379	31.953	31.953	8.520	18.933	18.933
2	5.751	12.779	44.733	5.751	12.779	44.733	5.085	11.301	30.233
3	3.462	7.693	52.426	3.462	7.693	52.426	4.421	9.823	40.057
4	2.656	5.901	58.327	2.656	5.901	58.327	4.328	9.618	49.675
5	1.582	3.516	61.843	1.582	3.516	61.843	3.559	7.909	57.584
6	1.415	3.144	64.987	1.415	3.144	64.987	2.284	5.075	62.659
7	1.298	2.885	67.872	1.298	2.885	67.872	2.028	4.507	67.166
8	1.176	2.614	70.486	1.176	2.614	70.486	1.494	3.320	70.486
9	.956	2.125	72.611						
10	.917	2.037	74.649						
11	.858	1.907	76.556						
12	.800	1.777	78.333						
13	.737	1.638	79.971						
14	.630	1.399	81.370						
15	.617	1.370	82.740						
16	.563	1.251	83.992						
17	.511	1.135	85.127						
18	.482	1.071	86.198						
19	.463	1.028	87.226						
20	.449	.998	88.224						
21	.401	.891	89.116						
22	.394	.876	89.991						
23	.350	.777	90.769						
24	.337	.748	91.517						
25	.309	.688	92.204						
26	.302	.671	92.876						
27	.288	.641	93.516						
28	.259	.576	94.092						
29	.245	.545	94.637						
30	.232	.516	95.153						
31	.224	.498	95.651						
32	.210	.466	96.117						
33	.193	.430	96.547						
34	.179	.398	96.944						
35	.173	.384	97.328						
36	.164	.364	97.693						
37	.159	.354	98.047						
38	.154	.342	98.389						
39	.140	.312	98.701						
40	.126	.280	98.981						
41	.118	.262	99.243						
42	9.672E-02	.215	99.458						
43	9.202E-02	.204	99.663						
44	8.360E-02	.186	99.848						
45	6.826E-02	.152	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix

	Component							
	1	2	3	4	5	6	7	8
The airhe offered discount as part of solution to my ser problem .	.522	.126	.629	-.183	-.104	-.148	.102	554E-02
The airhe offered solution to my ser problem .	.594	631E-02	.394	-.493	401E-02	-.124	.118	-.109
The solution offered airhe was acceptat me.	.602	771E-02	.417	-.432	521E-02	-.132	.143	039E-02
The airhe offered servce fk.	.258	.230	.607	195E-02	.117	124E-02	677E-02	.191
The airhe solved m problem and comp the recovery plan as I reported the	.136	.154	.263	-.168	.462	331E-02	713E-02	.124
The airhe complete recovery plan quickly	.002E-02	.163	494E-02	.112	.332	.219	851E-02	.478
My problem was s one go and I did r to ask for furthe	.106	.136	472E-02	-.192	.315	.308	246E-02	.487
I was not kept wa unnecessary and e solution was found	.605	.144	.527	-.329	-.102	125E-02	173E-02	-.158
The airhe sad they sorry for any hce m medately.	.417	.127	.705	776E-02	090E-02	890E-02	.147	-.116
The airhe wrote ar appropriate apobgy to me quickly.	.393	.168	.686	.118	-.147	.192	.104	714E-02
The airhe gave sor appropriate com pe as an apobgy.	.376	.124	.728	.156	-.129	.114	534E-02	738E-02
The airhe gave me additional benefits e kens of apobgy du fght.	.207	134E-02	.306	-.207	.222	698E-02	.700	.148
It took me too t airhe em pbyees to resolve my problem	-.243	013E-02	-.138	.758	.129	.147	.144	.132
The way my probl resolved reflected I paid for the fgt	-.145	148E-02	689E-02	.838	.144	.110	-.142	578E-02
In resolving the pr the airhe gave me needed.	.387	.148	.110	-.296	638E-02	540E-02	.640	-.102
To get my problem involved a bit of ef me.	-.117	124E-02	257E-02	.819	735E-02	.217	-.226	512E-02
I was happy with t outcom e.	.661	.148	.483	-.202	-.186	773E-02	.159	-.142
The airhe procedur were far.	.203	.851	.189	218E-02	860E-02	539E-02	556E-02	132E-02
The airhe procedur were sensbb.	.153	.841	.118	485E-02	413E-02	023E-02	291E-02	414E-02
The airhe procedur were clear.	.150	.853	731E-03	661E-02	054E-02	572E-02	723E-03	132E-02
The airhe procedur were stream hed.	.169	.865	324E-02	632E-02	697E-02	035E-02	020E-03	883E-02
The airhe procedur what I expected.	.151	.849	397E-02	875E-02	.111	406E-02	155E-02	198E-02
The procedures pl customer fist.	.059E-02	.647	991E-02	510E-04	.229	-.118	.376	.261
The procedures m feelim portant.	.136	.640	.307	391E-02	229E-02	.118	.109	567E-02
The procedures m angry.	.267E-02	545E-04	225E-02	083E-02	878E-02	-.159	243E-02	.587
Em pbyees were al whg to hep you.	.842	.172	.102	-.103	613E-02	268E-02	.123	417E-02
Em pbyees were ne busy to respond t request or com pl	.646	784E-02	.232	.137	-.222	584E-02	198E-02	.275



### Component Transformation Matrix

Component	1	2	3	4	5	6	7	8
1	.733	.321	.457	-.340	-.085	-.094	.135	.029
2	-.046	.632	.031	.390	.597	.211	.112	.179
3	.196	-.198	.407	.572	-.254	.504	-.311	-.119
4	.268	-.646	.127	.216	.512	-.196	.348	.163
5	.075	-.167	-.031	-.492	.523	.394	-.498	-.216
6	.340	-.072	-.554	-.067	-.181	.482	.136	.534
7	-.355	-.065	.319	-.284	-.052	.513	.637	-.130
8	-.321	-.062	.446	-.176	-.020	-.064	-.283	.760

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

## 5 d- Factor Analysis

### KMO and Bartlett's Test

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Kaiser-Meyer-Olkin Measure of Sampling Adequacy .			.821
Bartlett's Test of Sphericity	Approx. Chi-Square		2459.960
	df		15
	Sig.		.000

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### Component Matrix<sup>a</sup>

	Component	
	1	2
The airline offered a good discount as part of the solution to my service problem.	.862	-.194
The airline offered a good solution to my service problem.	.820	-.508
The solution offered by the airline was acceptable to me.	.832	-.474
The airline said they were sorry for any inconvenience immediately.	.839	.261
The airline wrote an appropriate apology letter to me quickly.	.784	.502
The airline gave some appropriate compensation as an apology.	.783	.467

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

**Rotated Component Matrix**

	Component	
	1	2
The airline offered a good discount as part of the solution to my service problem.	.751	.466
The airline offered a good solution to my service problem.	.941	.212
The solution offered by the airline was acceptable to me.	.926	.245
The airline said they were sorry for any inconvenience immediately .	.415	.775
The airline wrote an appropriate apology letter to me quickly .	.208	.907
The airline gave some appropriate compensation as an apology.	.231	.882

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 a. Rotation converged in 3 iterations.

**Component Transformation Matrix**

Component	1	2
1	.713	.701
2	-.701	.713

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

**5 e- Factor Analysis**

**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy .		.894
Bartlett's Test of Sphericity	Approx. Chi-Square	6652.440
	df	153
	Sig.	.000

### Communalities

	Initial	Extraction
It took me too long to get airline employees to resolve my problem.	1.000	.744
The way my problem was resolved reflected the price I paid for the flight.	1.000	.818
To get my problem solved involved a lot of effort from me.	1.000	.840
The airline procedures were fair.	1.000	.782
The airline procedures were sensible.	1.000	.728
The airline procedures were clear.	1.000	.733
The airline procedures were streamlined.	1.000	.788
The airline procedures did what I expected.	1.000	.765
The procedures put the customer first.	1.000	.524
The procedures made me feel important.	1.000	.513
Employees were always willing to help you.	1.000	.771
Employees were never too busy to respond to your request or complaint.	1.000	.556
The behaviour of employees gave you confidence.	1.000	.562
Employees had the knowledge to answer your questions.	1.000	.734
The employees gave you individual attention.	1.000	.700
The employees put the proper effort into resolving my problem	1.000	.733
The employees' communications with me were appropriate.	1.000	.744
The employees gave me the courtesy I was due.	1.000	.469

Extraction Method: Principal Component Analysis.



### Component Matrix<sup>a</sup>

	Component		
	1	2	3
It took me too long to get airline employees to resolve my problem.	-.409	.422	.631
The way my problem was resolved reflected the price I paid for the flight.	-.374	.366	.738
To get my problem solved involved a lot of effort from me.	-.369	.382	.747
The airline procedures were fair.	.708	.525	-6.694E-02
The airline procedures were sensible.	.656	.537	-9.772E-02
The airline procedures were clear.	.640	.556	-.122
The airline procedures were streamlined.	.677	.570	-7.726E-02
The airline procedures did what I expected.	.666	.549	-.143
The procedures put the customer first.	.519	.503	-4.235E-02
The procedures made me feel important.	.599	.391	2.448E-02
Employees were always willing to help you.	.769	-.365	.216
Employees were never too busy to respond to your request or complaint.	.545	-.269	.432
The behaviour of employees gave you confidence.	.626	-.412	-1.152E-02
Employees had the knowledge to answer your questions.	.766	-.353	.151
The employees gave you individual attention.	.714	-.357	.250
The employees put the proper effort into resolving my problem	.743	-.402	.140
The employees' communications with me were appropriate.	.746	-.326	.283
The employees gave me the courtesy I was due.	.604	-.204	.248

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

### Rotated Component Matrix

	Component		
	1	2	3
It took me too long to get airline employees to resolve my problem.	-.226	-2.589E-02	.832
The way my problem was resolved reflected the price I paid for the flight.	-.123	-6.157E-02	.894
To get my problem solved involved a lot of effort from me.	-.124	-4.787E-02	.907
The airline procedures were fair.	.207	.858	-4.906E-02
The airline procedures were sensible.	.149	.838	-5.737E-02
The airline procedures were clear.	.117	.846	-6.662E-02
The airline procedures were streamlined.	.156	.873	-3.214E-02
The airline procedures did what I expected.	.129	.860	-9.533E-02
The procedures put the customer first.	9.292E-02	.718	1.598E-02
The procedures made me feel important.	.240	.675	8.850E-03
Employees were always willing to help you.	.843	.182	-.164
Employees were never too busy to respond to your request or complaint.	.730	8.257E-02	.125
The behaviour of employees gave you confidence.	.661	8.643E-02	-.343
Employees had the knowledge to answer your questions.	.805	.199	-.216
The employees gave you individual attention.	.815	.148	-.116
The employees put the proper effort into resolving my problem	.809	.148	-.238
The employees' communications with me were appropriate.	.837	.188	-8.388E-02
The employees gave me the courtesy I was due.	.655	.195	-2.782E-02

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

a. Rotation converged in 5 iterations.

### Component Transformation Matrix

Component	1	2	3
1	.721	.636	-.275
2	-.521	.760	.390
3	.457	-.138	.879

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

### 5 f- Factor Analysis

#### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy .		.914
Bartlett's Test of Sphericity	Approx. Chi-Square	19160.615
	df	990
	Sig.	.000

**Com m unal i t i e s**

	I n t i a l	E x t r a c t i o n
The ar he offered a g discount as part of t soluti on to my service problem .	1. 000	. 761
The ar he offered a g soluti on to my service problem .	1. 000	. 800
The soluti on offered by ar he was acceptabl e to me.	1. 000	. 770
The ar he offered a g service fix.	1. 000	. 548
The ar he solved my problem and complet ed the recovery plan as as I reported the pro	1. 000	. 374
The ar he complet ed t recovery plan quicky.	1. 000	. 432
My problem was solve one go and I dd not to ask for further h	1. 000	. 509
I was not kept watng unnecessar y and a soluti on was found quic	1. 000	. 812
The ar he said they we sorry for any inconve in m edate y.	1. 000	. 731
The ar he wrote an appropri ate apobgy let to me quicky.	1. 000	. 739
The ar he gave some appropri ate compensat as an apobgy.	1. 000	. 752
The ar he gave me addtional benefits as t kens of apobgy during fight .	1. 000	. 752
It took me too long ar he empbyees to resolve my problem .	1. 000	. 733
The way my problem resolved reflect ed the I pad for the fight .	1. 000	. 794
In resolving the proble the ar he gave me wh needed.	1. 000	. 696
To get my problem s holved a bt of effort me.	1. 000	. 797
I was happy wth the out com e.	1. 000	. 816
The ar he procedures were fair .	1. 000	. 818
The ar he procedures were sensbb.	1. 000	. 758
The ar he procedures were clear .	1. 000	. 767
The ar he procedures were stream hed.	1. 000	. 800
The ar he procedures what I expect ed.	1. 000	. 766

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	14.379	31.953	31.953	14.379	31.953	31.953	8.520	18.933	18.933
2	5.751	12.779	44.733	5.751	12.779	44.733	5.085	11.301	30.233
3	3.462	7.693	52.426	3.462	7.693	52.426	4.421	9.823	40.057
4	2.656	5.901	58.327	2.656	5.901	58.327	4.328	9.618	49.675
5	1.582	3.516	61.843	1.582	3.516	61.843	3.559	7.909	57.584
6	1.415	3.144	64.987	1.415	3.144	64.987	2.284	5.075	62.659
7	1.298	2.885	67.872	1.298	2.885	67.872	2.028	4.507	67.166
8	1.176	2.614	70.486	1.176	2.614	70.486	1.494	3.320	70.486
9	.956	2.125	72.611						
10	.917	2.037	74.649						
11	.858	1.907	76.556						
12	.800	1.777	78.333						
13	.737	1.638	79.971						
14	.630	1.399	81.370						
15	.617	1.370	82.740						
16	.563	1.251	83.992						
17	.511	1.135	85.127						
18	.482	1.071	86.198						
19	.463	1.028	87.226						
20	.449	.998	88.224						
21	.401	.891	89.116						
22	.394	.876	89.991						
23	.350	.777	90.769						
24	.337	.748	91.517						
25	.309	.688	92.204						
26	.302	.671	92.876						
27	.288	.641	93.516						
28	.259	.576	94.092						
29	.245	.545	94.637						
30	.232	.516	95.153						
31	.224	.498	95.651						
32	.210	.466	96.117						
33	.193	.430	96.547						
34	.179	.398	96.944						
35	.173	.384	97.328						
36	.164	.364	97.693						
37	.159	.354	98.047						
38	.154	.342	98.389						
39	.140	.312	98.701						
40	.126	.280	98.981						
41	.118	.262	99.243						
42	9.672E-02	.215	99.458						
43	9.202E-02	.204	99.663						
44	8.360E-02	.186	99.848						
45	6.826E-02	.152	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix

	Component							
	1	2	3	4	5	6	7	8
The air he offered a discount as part of solution to my service problem.	.809	401E-02	.146	.115	040E-02	-.193	030E-02	.140
The air he offered a solution to my service problem.	.830	-.171	-.115	.119	.196	691E-02	348E-02	123E-02
The solution offered air he was acceptable to me.	.837	-.136	782E-02	.143	.122	690E-02	281E-02	545E-03
The air he offered a service fix.	.555	.220	.176	938E-02	518E-02	-.181	962E-02	.347
The air he solved my problem and completed the recovery plan as I reported the	.278	.340	835E-02	.162	.322	237E-02	571E-02	.188
The air he completed recovery plan quickly	.624E-02	.477	500E-02	.129	415E-02	.333	221E-02	.265
My problem was solved one go and I did not to ask for further	.195	.355	645E-02	.109	.231	.345	.150	.363
I was not kept waiting unnecessarily and a solution was found	.854	-.129	.148	653E-03	.121	-.127	.109	569E-02
The air he said they sorry for any inconvenience immediately.	.708	141E-02	.283	.117	774E-02	-.308	.167	499E-02
The air he wrote an appropriate apology to me quickly.	.623	.111	.498	515E-02	-.120	-.158	.213	447E-02
The air he gave some appropriate compensation as an apology.	.605	906E-02	.506	769E-02	-.142	-.241	.175	898E-02
The air he gave me additional benefits as a result of apology during fight.	.467	.168	-.304	.417	-.203	069E-03	.444	995E-02
It took me too long air he employees to resolve my problem	-.520	.412	.323	.229	-.351	512E-02	589E-02	559E-02
The way my problem resolved reflected that I paid for the fight	-.436	.362	.564	.190	-.203	-.169	-.193	-.106
In resolving the problem the air he gave me what was needed.	.565	055E-02	-.302	.202	-.138	062E-02	.367	-.288
To get my problem resolved involved a bit of effort on my part.	-.464	.363	.585	457E-02	-.182	003E-02	-.252	363E-02
I was happy with the outcome.	.860	-.130	.171	581E-02	509E-02	297E-02	214E-02	-.117
The air he procedures were fair.	.503	.566	428E-02	-.476	357E-02	-.105	897E-02	985E-02
The air he procedures were sensible.	.446	.531	-.157	-.446	-.132	-.142	-.104	088E-02
The air he procedures were clear.	.393	.559	-.156	-.512	721E-02	583E-02	747E-02	291E-02
The air he procedures were streamlined.	.437	.602	-.133	-.467	381E-02	644E-03	648E-02	118E-02
The air he procedures were what I expected.	.431	.569	-.208	-.446	915E-02	046E-02	355E-02	391E-02
The procedures put customer first.	.310	.609	-.366	698E-02	-.277	223E-02	279E-02	483E-02
The procedures made me feel important.	.447	.502	329E-02	-.271	858E-02	951E-02	.131	097E-02
The procedures made me feel	.427E-02	622E-02	-.119	.107	-.323	.270	-.134	.414

Rotated Component Matrix

	Component							
	1	2	3	4	5	6	7	8
The airhe offered discount as part of solution to my service problem .	.522	.126	.629	-.183	-.104	-.148	.102	554E-02
The airhe offered solution to my service problem .	.594	631E-02	.394	-.493	401E-02	-.124	.118	-.109
The solution offered airhe was acceptable to me.	.602	771E-02	.417	-.432	521E-02	-.132	.143	039E-02
The airhe offered service fix.	.258	.230	.607	195E-02	.117	124E-02	677E-02	.191
The airhe solved my problem and completed the recovery plan as I reported the	.136	.154	.263	-.168	.462	331E-02	713E-02	.124
The airhe completed recovery plan quickly	.002E-02	.163	494E-02	.112	.332	.219	851E-02	.478
My problem was solved one go and I did not to ask for further	.106	.136	472E-02	-.192	.315	.308	246E-02	.487
I was not kept waiting unnecessary and a solution was found	.605	.144	.527	-.329	-.102	125E-02	173E-02	-.158
The airhe said they sorry for any inconvenience medately.	.417	.127	.705	776E-02	090E-02	890E-02	.147	-.116
The airhe wrote an appropriate apology to me quickly.	.393	.168	.686	.118	-.147	.192	.104	714E-02
The airhe gave some appropriate compensation as an apology.	.376	.124	.728	.156	-.129	.114	534E-02	738E-02
The airhe gave me additional benefits as a means of apology due to fight.	.207	134E-02	.306	-.207	.222	698E-02	.700	.148
It took me too long airhe employees to resolve my problem	-.243	013E-02	-.138	.758	.129	.147	.144	.132
The way my problem resolved reflected I paid for the fight	-.145	148E-02	689E-02	.838	.144	.110	-.142	578E-02
In resolving the problem the airhe gave me what needed.	.387	.148	.110	-.296	638E-02	540E-02	.640	-.102
To get my problem resolved involved a bit of effort on my part.	-.117	124E-02	257E-02	.819	735E-02	.217	-.226	512E-02
I was happy with the outcome.	.661	.148	.483	-.202	-.186	773E-02	.159	-.142
The airhe procedures were fair.	.203	.851	.189	218E-02	860E-02	539E-02	556E-02	132E-02
The airhe procedures were sensible.	.153	.841	.118	485E-02	413E-02	023E-02	291E-02	414E-02
The airhe procedures were clear.	.150	.853	731E-03	661E-02	054E-02	572E-02	723E-03	132E-02
The airhe procedures were streamlined.	.169	.865	324E-02	632E-02	697E-02	035E-02	020E-03	883E-02
The airhe procedures what I expected.	.151	.849	397E-02	875E-02	.111	406E-02	155E-02	198E-02
The procedures placed customer first.	.059E-02	.647	991E-02	510E-04	.229	-.118	.376	.261
The procedures made me feel important.	.136	.640	.307	391E-02	229E-02	.118	.109	567E-02
The procedures made me angry.	.267E-02	545E-04	225E-02	083E-02	878E-02	-.159	243E-02	.587
Employees were available when you needed help.	.842	.172	.102	-.103	613E-02	268E-02	.123	417E-02

### Component Transformation Matrix

Component	1	2	3	4	5	6	7	8
1	.733	.321	.457	-.340	-.085	-.094	.135	.029
2	-.046	.632	.031	.390	.597	.211	.112	.179
3	.196	-.198	.407	.572	-.254	.504	-.311	-.119
4	.268	-.646	.127	.216	.512	-.196	.348	.163
5	.075	-.167	-.031	-.492	.523	.394	-.498	-.216
6	.340	-.072	-.554	-.067	-.181	.482	.136	.534
7	-.355	-.065	.319	-.284	-.052	.513	.637	-.130
8	-.321	-.062	.446	-.176	-.020	-.064	-.283	.760

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

### 5 g- Factor Analysis

#### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy .	.908
Bartlett's Test of Sphericity	Approx. Chi-Square 12335.196
	df 406
	Sig. .000

**Communalities**

	Initial	Extraction
The airline offered a good discount as part of the solution to my service problem.	1.000	.688
The airline offered a good solution to my service problem.	1.000	.790
The solution offered by the airline was acceptable to me.	1.000	.764
The airline said they were sorry for any inconvenience immediately.	1.000	.757
The airline wrote an appropriate apology letter to me quickly.	1.000	.779
The airline gave some appropriate compensation as an apology.	1.000	.807
It took me too long to get airline employees to resolve my problem.	1.000	.721
The way my problem was resolved reflected the price I paid for the flight.	1.000	.799
To get my problem solved involved a lot of effort from me.	1.000	.816
The airline procedures were fair.	1.000	.812
The airline procedures were sensible.	1.000	.736
The airline procedures were clear.	1.000	.763
The airline procedures were streamlined.	1.000	.798
The airline procedures did what I expected.	1.000	.768
The procedures put the customer first.	1.000	.612
The procedures made me feel important.	1.000	.555
Employees were always willing to help you.	1.000	.759
Employees were never too busy to respond to your request or complaint.	1.000	.625
The behaviour of employees gave you confidence.	1.000	.535
Employees had the knowledge to answer your questions.	1.000	.712
The employees gave you individual attention.	1.000	.667
The employees put the proper effort into resolving my problem	1.000	.698
The employees' communications with me were appropriate.	1.000	.737
The employees gave me the courtesy I was due.	1.000	.688
The airline online booking was easy. (if used)	1.000	.710
Waiting time for check-in was unacceptable.	1.000	.689
The airline provided good food and beverages.	1.000	.728
Special meals are available. (If needed).	1.000	.815
The plane was comfortable.	1.000	.746

Extraction Method: Principal Component Analysis.

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.197	35.163	35.163	10.197	35.163	35.163	6.189	21.340	21.340
2	4.932	17.007	52.170	4.932	17.007	52.170	4.911	16.935	38.274
3	2.727	9.403	61.572	2.727	9.403	61.572	3.574	12.323	50.597
4	2.092	7.214	68.786	2.092	7.214	68.786	3.504	12.081	62.679
5	1.128	3.891	72.677	1.128	3.891	72.677	2.900	9.999	72.677
6	.964	3.326	76.003						
7	.678	2.338	78.341						
8	.616	2.123	80.464						
9	.537	1.852	82.316						
10	.491	1.692	84.008						
11	.415	1.432	85.440						
12	.391	1.350	86.790						
13	.375	1.292	88.082						
14	.340	1.173	89.255						
15	.325	1.120	90.375						
16	.299	1.030	91.405						
17	.287	.991	92.396						
18	.265	.913	93.309						
19	.258	.889	94.198						
20	.234	.807	95.005						
21	.210	.725	95.730						
22	.208	.716	96.446						
23	.195	.673	97.119						
24	.171	.588	97.707						
25	.165	.568	98.275						
26	.162	.558	98.833						
27	.142	.490	99.324						
28	.116	.401	99.724						
29	7.992E-02	.276	100.000						

Extraction Method: Principal Component Analysis.

**Component Matrix<sup>a</sup>**

	Component				
	1	2	3	4	5
The airline offered a good discount as part of the solution to my service problem.	.788	-.107	.167	6.311E-02	-.153
The airline offered a good solution to my service problem.	.808	-.193	-9.850E-02	.244	-.175
The solution offered by the airline was acceptable to me.	.812	-.161	-4.334E-02	.231	-.156
The airline said they were sorry for any inconvenience immediately.	.699	-3.338E-02	.332	-8.883E-02	-.386
The airline wrote an appropriate apology letter to me quickly.	.634	3.771E-02	.458	-.238	-.332
The airline gave some appropriate compensation as an apology.	.613	1.342E-02	.502	-.236	-.350
It took me too long to get airline employees to resolve my problem.	-.513	.379	.497	-4.655E-02	.255
The way my problem was resolved reflected the price I paid for the flight.	-.422	.304	.679	-.236	.113
To get my problem solved involved a lot of effort from me.	-.435	.300	.637	-.279	.232
The airline procedures were fair.	.545	.602	-.190	-.341	-2.955E-02
The airline procedures were sensible.	.480	.597	-.242	-.297	4.809E-02
The airline procedures were clear.	.438	.607	-.310	-.294	.141
The airline procedures were streamlined.	.481	.647	-.256	-.276	8.135E-02

**Rotated Component Matrix**

	Component				
	1	2	3	4	5
The airline offered a good discount as part of the solution to my service problem.	.587	.133	-.261	-.147	.487
The airline offered a good solution to my service problem.	.589	9.548E-02	-.555	-9.031E-02	.345
The solution offered by the airline was acceptable to me.	.611	.107	-.494	-8.317E-02	.360
The airline said they were sorry for any inconvenience immediately.	.406	.134	-.124	-.103	.740
The airline wrote an appropriate apology letter to me quickly.	.355	.183	8.065E-02	-.156	.767
The airline gave some appropriate compensation as an apology.	.348	.138	.105	-.156	.794
It took me too long to get airline employees to resolve my problem.	-.134	-6.557E-02	.776	.272	-.154
The way my problem was resolved reflected the price I paid for the flight.	-.152	-8.125E-02	.859	.130	.121
To get my problem solved involved a lot of effort from me.	-.142	-4.441E-02	.889	6.180E-02	1.697E-02
The airline procedures were fair.	.149	.861	-3.849E-02	5.227E-03	.216
The airline procedures were sensible.	.138	.840	-4.067E-02	1.994E-02	9.700E-02
The airline procedures were clear.	.128	.863	-3.962E-02	5.550E-03	-2.216E-02
The airline procedures were streamlined.	.157	.875	-2.842E-02	5.415E-02	6.003E-02
The airline procedures did what I expected.	.132	.857	-9.224E-02	7.091E-02	5.526E-02
The procedures put the customer first.	.218	.647	-6.192E-02	.366	-9.450E-02
The procedures made me feel important.	.155	.647	-2.187E-02	.113	.315
Employees were always willing to help you.	.825	.182	-.154	-2.723E-02	.143
Employees were never too busy to respond to your request or complaint.	.704	.112	.170	-.266	.130
The behaviour of employees gave you confidence.	.607	.116	-.315	-.184	.140
Employees had the knowledge to answer your questions.	.740	.213	-.207	-.149	.234
The employees gave you individual attention.	.751	.156	-8.979E-02	-.106	.244
The employees put the proper effort into resolving my problem	.744	.160	-.227	-.126	.227
The employees' communications with me were appropriate.	.757	.186	-7.028E-02	-.122	.330
The employees gave me the courtesy I was due.	.782	.136	-6.994E-02	.220	-6.993E-02
The airline online booking was easy. (if used)	-.106	.166	.202	.792	-5.426E-02
Waiting time for check-in was unacceptable.	-.169	-2.036E-02	.634	.489	.138
The airline provided good food and beverages.	-.161	.139	.195	.803	2.012E-02
Special meals are available. (if needed).	-.125	6.639E-02	8.929E-02	.872	-.166
The plane was comfortable.	-6.678E-02	4.317E-02	.143	.818	-.224

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 a. Rotation converged in 7 iterations.

**Component Transformation Matrix**

Component	1	2	3	4	5
1	.720	.397	-.346	-.232	.388
2	-.034	.719	.326	.612	-.016
3	.320	-.361	.736	.063	.470
4	.438	-.430	-.308	.687	-.238
5	.431	.099	.370	-.309	-.756

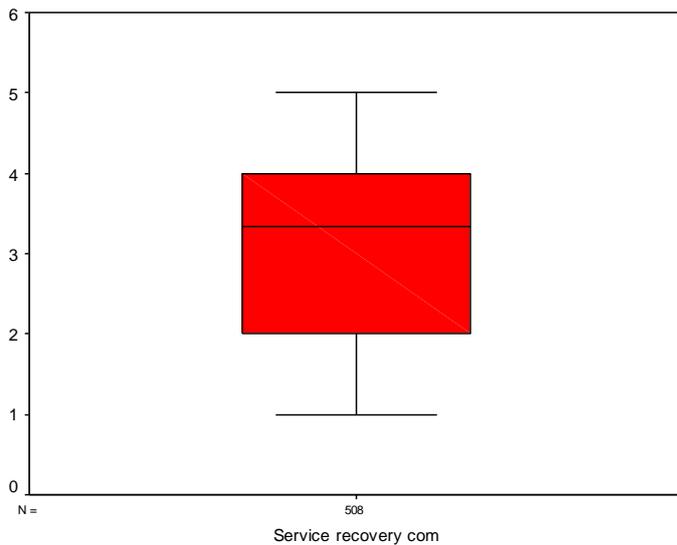
Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.

**Tests of Normality**

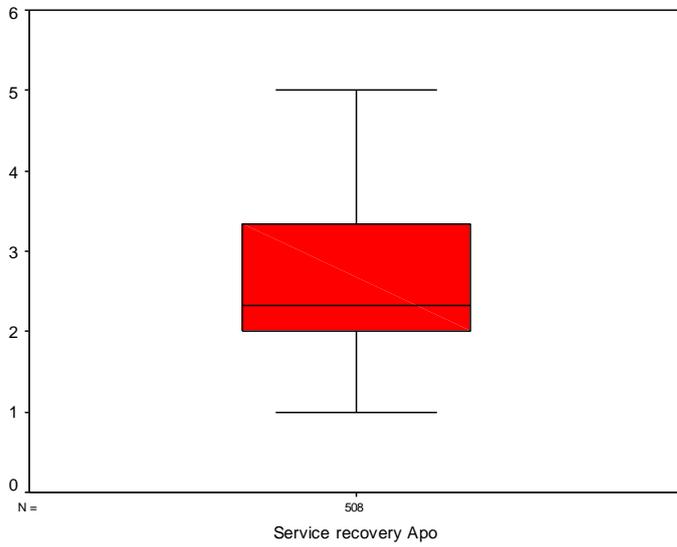
	Kolmogorov-Smirnov <sup>a</sup>		
	Statistic	df	Sig.
Service recovery compensation	.206	508	.000
Service recovery Apology	.190	508	.000
Distributive Justice	.125	508	.000
Procedural Justice	.197	508	.000
Interactional Justice	.144	508	.000
satisfied with flight/travel	.121	508	.000

a. Lilliefors Significance Correction

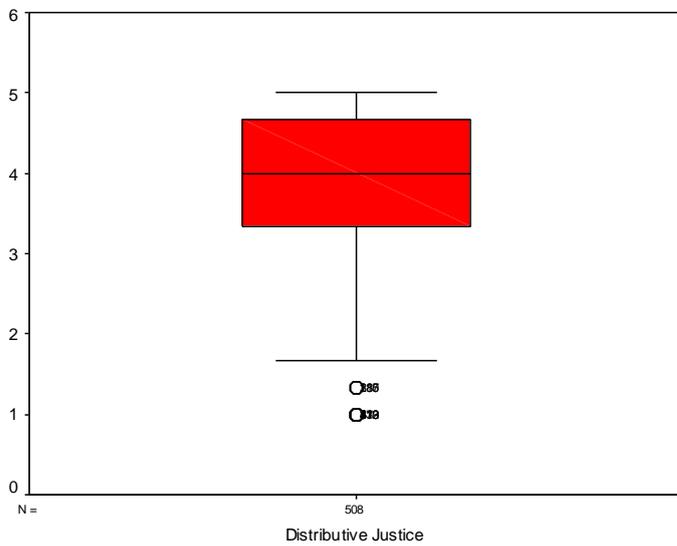
**11- Service recovery compensation**



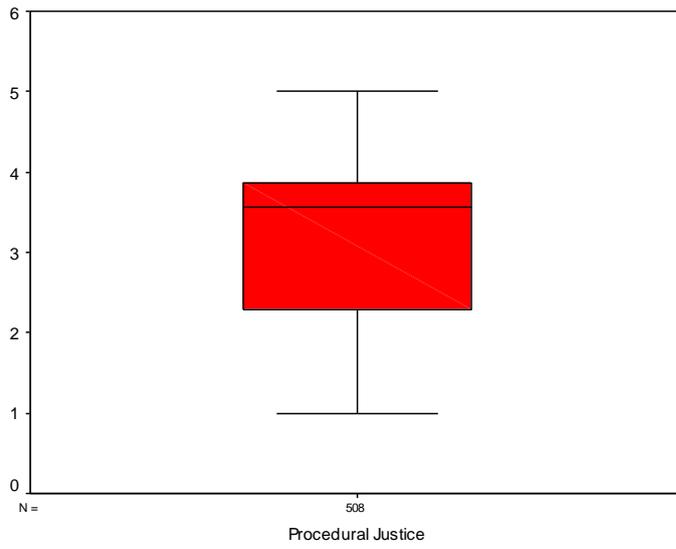
## 12- Service recovery Apology



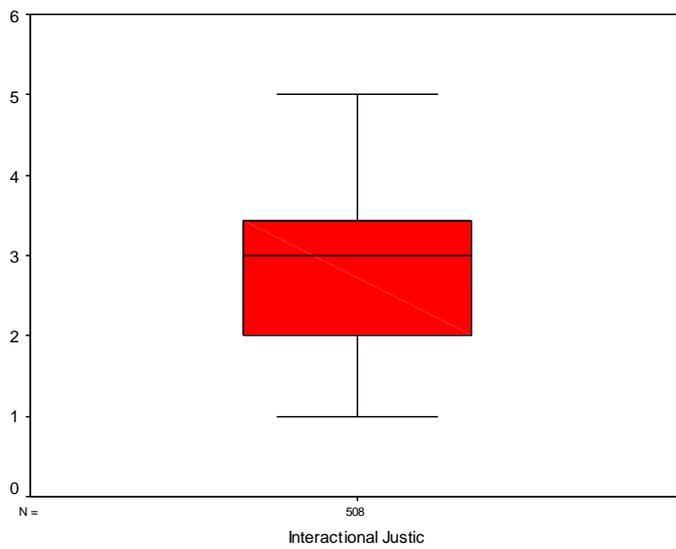
## 13- Distributive Justice



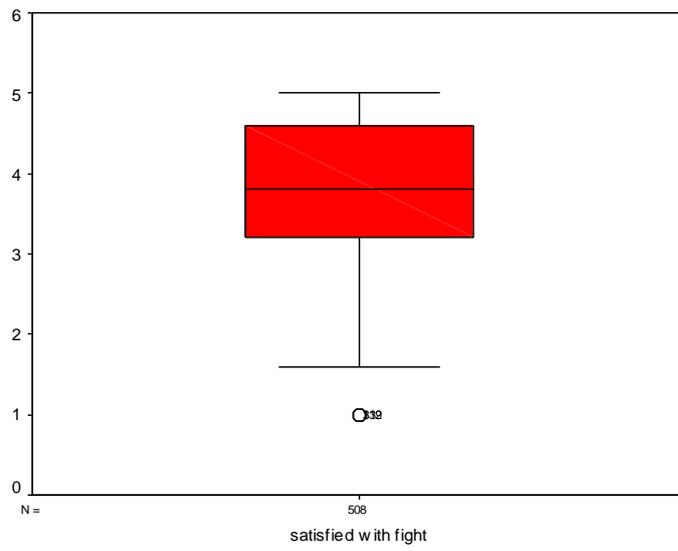
## 14- Procedural Justice



## 15- Interactional Justice



## 16- satisfied with fight/travel



## A- Correlations

### Correlations

		satisfied with fight/travel	Service recovery compensa tion	Service recovery Apology	Distributive Justice	Procedural Justice	Interaction al Justice
satisfied with fight/travel	Pearson Correlation	1.000	-.382*	-.253*	.453*	.129*	-.298*
	Sig. (2-tailed)	.	.000	.000	.000	.004	.000
	N	508	508	508	508	508	508
Service recovery compensation	Pearson Correlation	-.382*	1.000	.604*	-.512*	.302*	.759*
	Sig. (2-tailed)	.000	.	.000	.000	.000	.000
	N	508	508	508	508	508	508
Service recovery Apology	Pearson Correlation	-.253*	.604*	1.000	-.106*	.309*	.615*
	Sig. (2-tailed)	.000	.000	.	.017	.000	.000
	N	508	508	508	508	508	508
Distributive Justice	Pearson Correlation	.453*	-.512*	-.106*	1.000	-.130*	-.341*
	Sig. (2-tailed)	.000	.000	.017	.	.003	.000
	N	508	508	508	508	508	508
Procedural Justice	Pearson Correlation	.129*	.302*	.309*	-.130*	1.000	.374*
	Sig. (2-tailed)	.004	.000	.000	.003	.	.000
	N	508	508	508	508	508	508
Interactional Justice	Pearson Correlation	-.298*	.759*	.615*	-.341*	.374*	1.000
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.
	N	508	508	508	508	508	508

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

## B- Regression

### Variables Entered/Removed<sup>a</sup>

Model	Variables Entered	Variables Removed	Method
1	Distributive Justice	·	Forward (Criterion: Probability -of -F-to-enter <= .050)
2	Service recovery Apology	·	Forward (Criterion: Probability -of -F-to-enter <= .050)
3	Procedural Justice	·	Forward (Criterion: Probability -of -F-to-enter <= .050)
4	Interactional Justice	·	Forward (Criterion: Probability -of -F-to-enter <= .050)

a. Dependent Variable: satisfied with flight/travel

**Model Summary<sup>f</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.453 <sup>a</sup>	.205	.204	.8112077
2	.498 <sup>b</sup>	.248	.245	.7900018
3	.563 <sup>c</sup>	.317	.313	.7534882
4	.571 <sup>d</sup>	.326	.320	.7493983

- a. Predictors: (Constant), Distributive Justice
- b. Predictors: (Constant), Distributive Justice, Service recovery Apology
- c. Predictors: (Constant), Distributive Justice, Service recovery Apology, Procedural Justice
- d. Predictors: (Constant), Distributive Justice, Service recovery Apology, Procedural Justice, Interactional Justice
- e. Dependent Variable: satisfied with fight/travel

**ANOVA<sup>e</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	86.007	1	86.007	130.698	.000 <sup>a</sup>
	Residual	332.977	506	.658		
	Total	418.984	507			
2	Regression	103.812	2	51.906	83.169	.000 <sup>b</sup>
	Residual	315.172	505	.624		
	Total	418.984	507			
3	Regression	132.841	3	44.280	77.993	.000 <sup>c</sup>
	Residual	286.143	504	.568		
	Total	418.984	507			
4	Regression	136.500	4	34.125	60.764	.000 <sup>d</sup>
	Residual	282.484	503	.562		
	Total	418.984	507			

- a. Predictors: (Constant), Distributive Justice
- b. Predictors: (Constant), Distributive Justice, Service recovery Apology
- c. Predictors: (Constant), Distributive Justice, Service recovery Apology, Procedural Justice
- d. Predictors: (Constant), Distributive Justice, Service recovery Apology, Procedural Justice, Interactional Justice
- e. Dependent Variable: satisfied with fight/travel

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Std. Error	Beta	t	Sig.	Collinearity Statistics	
		B	Standardized Coefficients					Tolerance	VIF
1	(Constant)	2.338		.135		17.352	.000		
	Distributive Justice	.393		.034	.453	11.432	.000	1.000	1.000
	Service recovery Apology								
	Procedural Justice								
	Interactional Justice								
2	(Constant)	2.878		.166		17.377	.000		
	Distributive Justice	.374		.034	.431	11.108	.000	.989	1.011
	Service recovery Apology	-.176		.033	-.207	-5.341	.000	.989	1.011
	Procedural Justice								
	Interactional Justice								
3	(Constant)	2.088		.193		10.832	.000		
	Distributive Justice	.398		.032	.458	12.319	.000	.978	1.022
	Service recovery Apology	-.246		.033	-.290	-7.482	.000	.900	1.111
	Procedural Justice	.277		.039	.278	7.151	.000	.895	1.117
	Interactional Justice								
4	(Constant)	2.307		.210		10.983	.000		
	Distributive Justice	.368		.034	.424	10.789	.000	.866	1.155
	Service recovery Apology	-.187		.040	-.221	-4.683	.000	.602	1.661
	Procedural Justice	.300		.040	.301	7.580	.000	.850	1.177
	Interactional Justice	-.122		.048	-.130	-2.553	.011	.517	1.934

a. Dependent Variable: satisfied with flight/travel

**Excluded Variables<sup>§</sup>**

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Service recovery compensation	-.204 <sup>a</sup>	-4.502	.000	-.196	.738	1.356	.738
	Service recovery Apology	-.207 <sup>a</sup>	-5.341	.000	-.231	.989	1.011	.989
	Procedural Justice	.191 <sup>a</sup>	4.890	.000	.213	.983	1.017	.983
	Interactional Justice	-.162 <sup>a</sup>	-3.906	.000	-.171	.884	1.131	.884
2	Service recovery compensation	-.084 <sup>b</sup>	-1.435	.152	-.064	.432	2.317	.432
	Service recovery Apology							
	Procedural Justice	.278 <sup>b</sup>	7.151	.000	.303	.895	1.117	.895
	Interactional Justice	-.043 <sup>b</sup>	-8.23	.411	-.037	.545	1.836	.545
3	Service recovery compensation	-.132 <sup>c</sup>	-2.352	.019	-.104	.426	2.348	.426
	Service recovery Apology							
	Procedural Justice							
	Interactional Justice	-.130 <sup>c</sup>	-2.553	.011	-.113	.517	1.934	.517
4	Service recovery compensation	-.078 <sup>d</sup>	-1.174	.241	-.052	.305	3.280	.305
	Service recovery Apology							
	Procedural Justice							
	Interactional Justice							

a. Predictors in the Model: (Constant), Distributive Justice

b. Predictors in the Model: (Constant), Distributive Justice, Service recovery Apology

c. Predictors in the Model: (Constant), Distributive Justice, Service recovery Apology, Procedural Justice

d. Predictors in the Model: (Constant), Distributive Justice, Service recovery Apology, Interactional Justice

e. Dependent Variable: satisfied with fight/travel

**Collinearity Diagnostics<sup>a</sup>**

Model	Dimension	Eigenvalue	Condition Index	(Constant)	Variance Proportions			
					Distributive Justice	Service recovery Apology	Procedural Justice	Interactional Justice
1	1	1.964	1.000	.02	.02			
	2	3.634E-02	7.351	.98	.98			
	3							
	4							
	5							
2	1	2.850	1.000	.01	.01	.02		
	2	.121	4.846	.01	.20	.70		
	3	2.845E-02	10.010	.98	.79	.28		
	4							
	5							
3	1	3.789	1.000	.00	.00	.01	.00	
	2	.122	5.563	.01	.23	.55	.01	
	3	6.699E-02	7.521	.00	.17	.40	.62	
	4	2.125E-02	13.355	.99	.59	.04	.37	
	5							
4	1	4.718	1.000	.00	.00	.00	.00	.00
	2	.153	5.551	.01	.20	.13	.00	.08
	3	6.834E-02	8.309	.00	.11	.45	.44	.02
	4	4.283E-02	10.496	.03	.01	.38	.42	.62
	5	1.765E-02	16.351	.96	.68	.03	.13	.28

a. Dependent Variable: satisfied with fight/travel

**Casewise Diagnostics<sup>a</sup>**

Case Number	Std. Residual	satisfied with fight/travel
55	-3.180	2.20000
112	-4.267	1.00000

a. Dependent Variable: satisfied with fight/travel

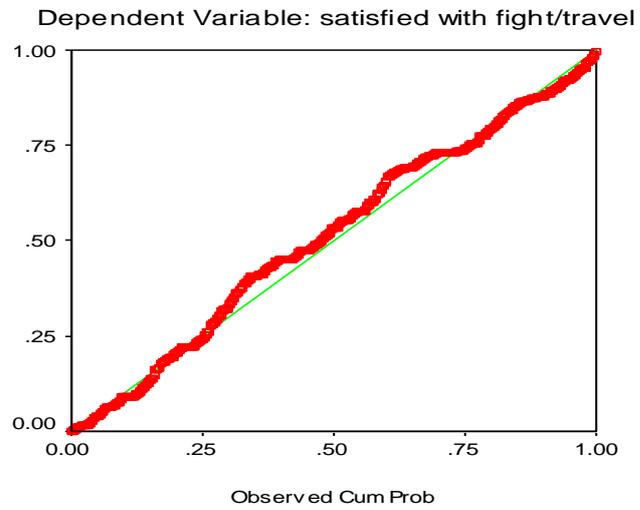
**Residuals Statistics<sup>a</sup>**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.5852849	5.1677203	3.8224409	.5188754	508
Residual	-3.1979990	1.9001961	2.51E-15	.7464362	508
Std. Predicted Value	-2.384	2.593	.000	1.000	508
Std. Residual	-4.267	2.536	.000	.996	508

a. Dependent Variable: satisfied with fight/travel

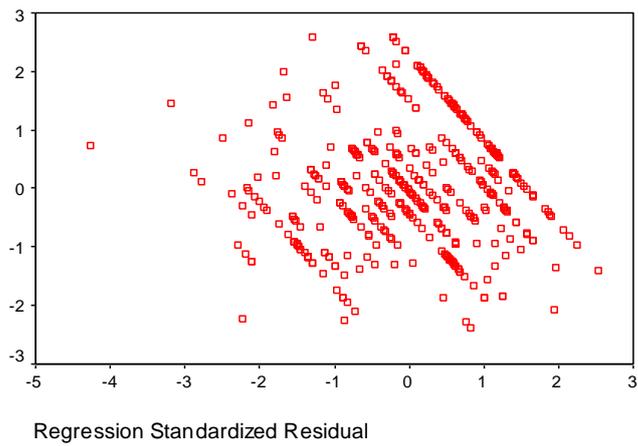
## c- Charts

Normal P-P Plot of Regression Standardized Residual



## Scatterplot

Dependent Variable: satisfied with fight/travel



## **Appendix 5**

### **Libyan Airlines reliability and Fly Afriqiyah Airways reliability**

## 1-Libyan Airlines reliability

\*\*\*\*\* Method 1 (space saver) will be used for this analysis \*\*\*\*\*

X5: 1 Libyan Airlines

### 1-RELIABILITY ANALYSIS - SCALE (ALPHA)

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X11	8.8102	9.4672	.8277	.7929
X12	8.8000	9.7524	.7942	.8074
X13	8.6542	9.2202	.7929	.8072
X14	8.5356	12.1271	.5042	.9130

Reliability Coefficients

N of Cases = 295.0

N of Items = 4

Alpha = .8714

## 2- Fly Afriqiyah Airways reliability

X5:2 Fly Afriqiyah Airways

### 2-RELIABILITY ANALYSIS - SCALE (ALPHA)

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X11	9.3280	9.2642	.8745	.8217
X12	9.1799	9.0845	.8282	.8395
X13	9.1270	9.0476	.8378	.8355
X14	9.0476	12.1945	.5445	.9342

Reliability Coefficients

N of Cases = 189.0

N of Items = 4

Alpha = .8941



X5: 1 Libyan Airlines

**6-RELIABILITY ANALYSIS - SCALE (ALPHA)**

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X15	6.3153	3.0942	.3037	.4515
X16	6.3729	2.7176	.3701	.3402
X17	6.3695	2.8460	.3120	.4407

Reliability Coefficients

N of Cases = 295.0                      N of Items = 3

Alpha = .5135

X5:            2    Fly Afriqiyah Airways

**7-RELIABILITY ANALYSIS - SCALE (ALPHA)**

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X15	6.4550	2.7067	.1709	.4715
X16	6.6825	2.0583	.3516	.1312
X17	6.3333	2.4043	.2497	.3380

Reliability Coefficients

N of Cases = 189.0                      N of Items = 3

Alpha = .4238

X5:            1    Libyan Airlines

**8-RELIABILITY ANALYSIS - SCALE (ALPHA)**

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
--	-------------------------------------	---	--	-----------------------------

	Deleted	Deleted	Correlation	Deleted
X19	7.8169	8.3269	.7258	.7387
X20	7.9932	8.5374	.7220	.7414
X21	7.9220	8.4871	.7627	.7232
X22	7.9763	10.6355	.4035	.8791

Reliability Coefficients

N of Cases = 295.0 N of Items = 4

Alpha = .8230

X5: 2 Fly Afriqiyah Airways

**9-RELIABILITY ANALYSIS - SCALE (ALPHA)**

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X19	7.8413	7.8470	.8035	.6686
X20	8.0688	7.9580	.7459	.6962
X21	8.0317	8.1266	.7290	.7058
X22	7.9788	10.8613	.2798	.9081

Reliability Coefficients

N of Cases = 189.0 N of Items = 4

Alpha = .8071

X5: 1 Libyan Airlines

**10-RELIABILITY ANALYSIS - SCALE (ALPHA)**

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X19	5.2237	4.9702	.7396	.8539
X20	5.4000	4.9075	.7960	.8020
X21	5.3288	5.1602	.7648	.8307

Reliability Coefficients

N of Cases = 295.0

N of Items = 3

Alpha = .8791

X5: 2 Fly Afriqiyah Airways

**11-RELIABILITY ANALYSIS - SCALE (ALPHA)**

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X19	5.1799	5.2334	.7880	.8915
X20	5.4074	4.9023	.8363	.8512
X21	5.3704	5.0110	.8252	.8607

Reliability Coefficients

N of Cases = 189.0

N of Items = 3

Alpha = .9081

X5: 1 Libyan Airlines

**12-RELIABILITY ANALYSIS - SCALE (ALPHA)**

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X23	13.3729	6.7040	.2624	.1009
X24	13.1966	6.4646	.4001	-.0083
X25	14.5085	8.5433	-.0543	.4012
X26	13.2915	6.7719	.2856	.0863
X27	14.4847	8.6724	-.1008	.4606

Reliability Coefficients

N of Cases = 295.0

N of Items = 5

Alpha = .2744

X5: 2 Fly Afriqiyah Airways

### 13-RELIABILITY ANALYSIS - SCALE (ALPHA)

#### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X23	13.1640	5.3506	.1720	-.0242
X24	12.9206	4.7543	.4098	-.2815
X25	13.9471	6.9014	-.1065	.2894
X26	12.9048	5.0122	.3081	-.1726
X27	13.8571	7.7401	-.2551	.4739

#### Reliability Coefficients

N of Cases = 189.0

N of Items = 5

Alpha = .1362

X5: 1 Libyan Airlines

### 14-RELIABILITY ANALYSIS - SCALE (ALPHA)

#### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X23	10.6441	4.2232	.5960	.0074
X24	10.4678	4.6444	.6148	.0433
X25	11.7797	9.5941	-.3245	.8780
X26	10.5627	4.5598	.5619	.0725

#### Reliability Coefficients

N of Cases = 295.0

N of Items = 4

Alpha = .4606

X5: 2 Fly Afriqiyah Airways

### 15-RELIABILITY ANALYSIS - SCALE (ALPHA)

#### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X23	10.3228	3.9431	.5233	.1222
X24	10.0794	4.0841	.6256	.0557
X25	11.1058	8.2547	-.2821	.8498
X26	10.0635	4.1874	.5456	.1262

#### Reliability Coefficients

N of Cases = 189.0

N of Items = 4

Alpha = .4739

X5: 1 Libyan Airlines

### 16-RELIABILITY ANALYSIS - SCALE (ALPHA)

#### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X28	21.0441	30.9130	.8291	.8551
X29	21.1763	31.1117	.7968	.8584
X30	21.1390	31.7663	.7475	.8638
X31	21.2271	30.9176	.8377	.8543
X32	21.1458	31.3018	.8233	.8562
X33	21.4610	32.5623	.6677	.8722
X34	21.4475	34.5066	.5890	.8796
X35	22.6102	42.3679	-.0439	.9257

#### Reliability Coefficients

N of Cases = 295.0

N of Items = 8

Alpha = .8872

X5: 2 Fly Afriqiyah Airways

**17-RELIABILITY ANALYSIS - SCALE (ALPHA)**

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X28	20.3439	30.6098	.7881	.8600
X29	20.5238	31.7614	.7361	.8659
X30	20.3968	30.6981	.8437	.8547
X31	20.4709	30.7292	.8264	.8563
X32	20.5661	31.4278	.7887	.8607
X33	20.7778	32.7695	.5756	.8833
X34	20.6561	34.0141	.6243	.8772
X35	21.8942	40.4356	.0858	.9174

Reliability Coefficients

N of Cases = 189.0 N of Items = 8

Alpha = .8877

X5: 1 Libyan Airlines

**18-RELIABILITY ANALYSIS - SCALE (ALPHA)**

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X28	19.1898	30.5149	.8437	.9065
X29	19.3220	30.6408	.8176	.9091
X30	19.2847	31.3812	.7601	.9149
X31	19.3729	30.6496	.8401	.9069
X32	19.2915	30.9964	.8292	.9081
X33	19.6068	32.3823	.6617	.9248
X34	19.5932	34.0244	.6098	.9285

Reliability Coefficients

N of Cases = 295.0 N of Items = 7

Alpha = .9257

X5: 2 Fly Afriqiyah Airways

### 19-RELIABILITY ANALYSIS - SCALE (ALPHA)

#### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X28	18.5767	28.8624	.8125	.8977
X29	18.7566	30.2277	.7378	.9057
X30	18.6296	29.1919	.8458	.8945
X31	18.7037	29.1990	.8306	.8960
X32	18.7989	29.7572	.8050	.8989
X33	19.0106	31.3935	.5614	.9254
X34	18.8889	32.1844	.6501	.9142

#### Reliability Coefficients

N of Cases = 189.0 N of Items = 7

Alpha = .9174

X5: 1 Libyan Airlines

### 20-RELIABILITY ANALYSIS - SCALE (ALPHA)

#### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X36	19.0475	50.1678	.8628	.9168
X37	19.4000	54.1660	.6907	.9294
X38	19.3356	52.5979	.7049	.9287
X39	19.2169	50.7147	.8241	.9198
X40	19.4000	52.7646	.7868	.9230
X41	19.2102	50.3502	.8233	.9198
X42	19.1492	50.1818	.8102	.9208
X43	19.4068	53.8408	.6361	.9336

#### Reliability Coefficients

N of Cases = 295.0 N of Items = 8

Alpha = .9330

X5: 2 Fly Afriqiyah Airways

### 21-RELIABILITY ANALYSIS - SCALE (ALPHA)

#### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X36	19.6455	43.9641	.7995	.8759
X37	19.5873	48.4458	.5747	.8966
X38	19.8783	48.3628	.5275	.9016
X39	19.7249	45.5516	.7596	.8803
X40	19.8624	45.7576	.7640	.8801
X41	19.7831	45.8091	.7635	.8801
X42	19.6561	43.8013	.7925	.8764
X43	19.9365	48.4959	.5241	.9018

#### Reliability Coefficients

N of Cases = 189.0

N of Items = 8

Alpha = .8997

X5: 1 Libyan Airlines

### 22-RELIABILITY ANALYSIS - SCALE (ALPHA)

#### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X46	38.7390	31.2752	.6564	.5412
X47	39.1254	32.1305	.4107	.5725
X48	39.4169	33.6113	.4420	.5773
X49	40.2475	39.2209	-.1417	.6891
X50	38.9932	30.6462	.6091	.5391
X51	39.0746	31.0897	.4481	.5623
X52	39.0373	31.9000	.4072	.5721
X53	39.5458	33.9902	.1843	.6187
X54	39.2407	33.2786	.3346	.5878
X55	39.2915	32.8399	.3706	.5811
X56	39.4983	35.2372	.1129	.6326
X57	40.1932	38.8027	-.1129	.6784

#### Reliability Coefficients

N of Cases = 295.0  
Alpha = .6204

N of Items = 12

X5: 2 Fly Afriqiyah Airways

### 23-RELIABILITY ANALYSIS - SCALE (ALPHA)

#### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X46	38.2698	24.3151	.4923	.4744
X47	38.8307	24.1839	.3784	.4917
X48	38.7778	27.8121	.2246	.5355
X49	39.2011	28.3849	-.0115	.5963
X50	38.4762	23.4210	.6181	.4482
X51	38.7937	23.5476	.4042	.4824
X52	38.6508	25.8349	.2090	.5361
X53	38.8254	27.7938	.0733	.5674
X54	38.6561	25.6843	.3180	.5114
X55	38.5926	26.4555	.2505	.5265
X56	38.4709	26.6866	.1541	.5493
X57	39.3651	30.7011	-.1593	.6195

#### Reliability Coefficients

N of Cases = 189.0

N of Items = 12

Alpha = .5535

X5: 1 Libyan Airlines

### 24-RELIABILITY ANALYSIS - SCALE (ALPHA)

#### Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X46	35.9864	30.6801	.7293	.6021
X47	36.3729	31.1122	.5031	.6263
X48	36.6644	34.1829	.3882	.6515
X49	37.4949	41.8155	-.2733	.7705
X50	36.2407	30.0813	.6706	.6017
X51	36.3220	30.3143	.5164	.6213
X52	36.2847	30.8846	.4965	.6263
X53	36.7932	35.7224	.0771	.7055
X54	36.4881	32.4548	.4103	.6433
X55	36.5390	31.9908	.4493	.6367
X56	36.7458	34.8569	.1426	.6922

Reliability Coefficients

N of Cases = 295.0

N of Items = 11

Alpha = .6784

X5: 2 Fly Afriqiyah Airways

**25-RELIABILITY ANALYSIS - SCALE (ALPHA)**

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X46	35.3704	24.2238	.5753	.5396
X47	35.9312	24.3942	.4183	.5643
X48	35.8783	29.1287	.1388	.6188
X49	36.3016	30.7543	-.1240	.6910
X50	35.5767	23.7667	.6515	.5262
X51	35.8942	23.5100	.4651	.5509
X52	35.7513	25.2091	.3178	.5877
X53	35.9259	30.0477	-.0530	.6640
X54	35.7566	25.5575	.3987	.5731
X55	35.6931	26.2989	.3350	.5862
X56	35.5714	26.8313	.1984	.6145

Reliability Coefficients

N of Cases = 189.0

N of Items = 11

Alpha = .6195

X5: 1 Libyan Airlines

**26-RELIABILITY ANALYSIS - SCALE (ALPHA)**

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X46	33.2881	32.9609	.7741	.7155
X47	33.6746	32.5060	.6168	.7263
X48	33.9661	37.5975	.3319	.7634
X50	33.5424	32.1402	.7297	.7142
X51	33.6237	32.2355	.5791	.7303
X52	33.5864	32.9917	.5472	.7356
X53	34.0949	40.2699	-.0167	.8181
X54	33.7898	34.5747	.4666	.7473

X55	33.8407	33.8827	.5240	.7397
X56	34.0475	38.1814	.1170	.7984

Reliability Coefficients

N of Cases = 295.0 N of Items = 10

Alpha = .7705

X5: 2 Fly Afriqiyah Airways

**27-RELIABILITY ANALYSIS - SCALE (ALPHA)**

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X46	32.3069	23.7883	.6318	.6201
X47	32.8677	23.4665	.5119	.6349
X48	32.8148	29.6836	.0728	.7035
X50	32.5132	23.6129	.6761	.6139
X51	32.8307	23.0031	.5170	.6325
X52	32.6878	24.3222	.4005	.6582
X53	32.8624	31.7788	-.1810	.7601
X54	32.6931	24.8947	.4745	.6464
X55	32.6296	25.6281	.4113	.6579
X56	32.5079	27.4853	.1480	.7071

Reliability Coefficients

N of Cases = 189.0 N of Items = 10

Alpha = .6910

X5: 1 Libyan Airlines

**28-RELIABILITY ANALYSIS - SCALE (ALPHA)**

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X46	29.8881	31.5895	.7736	.7750
X47	30.2746	30.6692	.6581	.7819
X48	30.5661	36.6274	.2808	.8230
X50	30.1424	30.6531	.7421	.7736
X51	30.2237	30.7865	.5855	.7911
X52	30.1864	31.3291	.5703	.7931

X54	30.3898	32.7217	.5040	.8014
X55	30.4407	31.9684	.5690	.7936
X56	30.6475	36.5284	.1264	.8534

Reliability Coefficients

N of Cases = 295.0 N of Items = 9

Alpha = .8181

X5: 2 Fly Afriqiyah Airways

**29-RELIABILITY ANALYSIS - SCALE (ALPHA)**

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X46	28.8677	24.6899	.6329	.7098
X47	29.4286	23.7994	.5680	.7155
X48	29.3757	30.9911	.0355	.7814
X50	29.0741	24.6541	.6599	.7069
X51	29.3915	24.0906	.5001	.7279
X52	29.2487	24.7091	.4491	.7372
X54	29.2540	25.5309	.5062	.7279
X55	29.1905	26.1337	.4584	.7353
X56	29.0688	28.1601	.1739	.7822

Reliability Coefficients

N of Cases = 189.0 N of Items = 9

Alpha = .7601

X5: 1 Libyan Airlines

**30-RELIABILITY ANALYSIS - SCALE (ALPHA)**

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
X46	26.1831	24.6875	.8031	.7433
X47	26.5695	24.3412	.6302	.7603
X48	26.8610	29.1881	.3027	.8052
X50	26.4373	23.8115	.7723	.7406
X51	26.5186	23.6383	.6347	.7586

X52	26.4814	24.0804	.6247	.7607
X55	26.7356	26.3584	.4553	.7877
X56	26.9424	30.0001	.0687	.8538

Reliability Coefficients

N of Cases = 295.0                      N of Items = 8

Alpha = .8014

X5:            2    Fly Afriqiyah Airways

**31-RELIABILITY ANALYSIS - SCALE (ALPHA)**

Item-total Statistics

	Scale Mean If Item Deleted	Scale Variance If Item Deleted	Corrected Item- Total Correlation	Alpha If Item Deleted
X46	25.2593	19.0441	.6499	.6571
X47	25.8201	18.5313	.5478	.6716
X48	25.7672	24.6902	.0473	.7526
X50	25.4656	18.9097	.6925	.6504
X51	25.7831	18.0857	.5543	.6693
X52	25.6402	18.5720	.5076	.6809
X55	25.5820	21.5637	.3228	.7186
X56	25.4603	23.0583	.0920	.7695

Reliability Coefficients

N of Cases = 189.0                      N of Items = 8

Alpha = .7279