भारतीय प्रबंध संस्थान बेंगलूर
INDIAN INSTITUTE OF MANAGEMENT
BANGALORE

WORKING PAPER NO: 401

Wait for Service and Customer Specific Service Outcomes: A meta-analysis[1]

Swagato Chatterjee
Doctoral Student
Marketing
Indian Institute of Management Bangalore
Bannerghatta Road, Bangalore – 5600 76
swagato.chatterjee10@iimb.ernet.in

Year of Publication–March 2013

[1] This research is work in progress. Please do not quote or cite without permission.

Wait for Service and Customer Specific Service Outcomes: A meta-analysis

Abstract

The impact of waiting for service, a very common incident in the service business, on the customer-related service outcomes is very important to service managers for ensuring better business performance. The current article gives an extensive review of all such empirical articles studying the above relationship and does a meta-analysis to find the effect size of such a relationship. The sample consists of 44 empirical studies. In the review three major dependent variables, namely service quality evaluation, satisfaction of customers and affective and behavioral response, were found to be effected by various independent variables, which can be categorized in three major types such as external, internal and controllable situational variables. The review has detected the temporal pattern and the usage of major theories and methodologies in the past studies. The results of the meta-analysis show that the service delay has a significant negative impact on satisfaction, but non-significant negative impact on service quality. The interpretations of the results, the managerial implications of the knowledge accumulated and future research directions are discussed.

Keywords: Wait for service, Delay, Quality, Satisfaction

1. Introduction

Wait management has remained as one of the primary challenge for the service manager for years. In the increasing busyness of the social system, the time taken for service delivery has become more important (Katz et. al., 1991). And thus wait for service has been found to be fatal for the satisfaction, loyalty and image of the service provider (van Riel et al, 2012). Wait for service has been defined as the time between the moment the consumer is ready to take the service and the moment he is actually receiving the service (Taylor, 1994). For a long time service managers have focused on the operational issues of wait-management and have remained limited in managing trade off of reducing waiting time and optimizing capacity (Davis and Vollman, 1990). But from the psychological view-point of time perceptions and the marketing view point of customer satisfaction, researchers have suggested that wait management can also be looked upon from the perceptual context (Davis and Vollman, 1990). These views were followed by several studies which have focused on various aspects of waiting for service and how they affect the service quality perceptions of the consumers (Durrande-Moreau, 1999).

Service being a process oriented offering is not only dependent on correct service delivery process but also depends on the consumer specific attributes like mood, need state, involvement etc. Hence service delay may have different sources and also different types of impacts on the consumers. Several studies have been done so far to capture such relationships. Such studies have become very relevant for the service managers not only to help them design better service delivery process and optimization mechanism, but also to provide them with the prescription of customer satisfaction and retention resulting in long term competitive advantage.

The aim of this current study is to summarize the studies on wait for service and service quality perceptions and also finding the possible future scopes of further research under the same

domain. The author has used the meta-analysis techniques for summarizing the effects sizes of the relationships. Meta-analysis is a highly suggested method of summarizing empirical works in social science (Glass et. al., 1981). It not only helps to find the combined effect size of a relationship and the overall model of a set of relationships, but also provides the possible gap where future researchers can focus upon. Though service delays and its impacts have a rich set of literature, till now, no meta-analysis has been done in this area to combine the contrasting results. The only review study has been done by Durrande-Moreau (1999) who tried to combine the results of empirical researchers of ten years. But this article, though contributory, has limitations in summarizing the results of the area of waiting for service. This is because the article has considered only 18 article of empirical research and that too, the published one. Hence the research has the publication bias and the results are also biased due to non-representative sample. Moreover, at the time of publishing of this article, no such research has been done which found positive impacts of service delays. Hence a further and more elaborate review was needed to summarize the results in this domain. The current study has tried to summarize a larger sample of articles which included both published and unpublished articles in the domain of service delays and service evaluations. Moreover the elaborate data analysis that is expected to be applied in this study is also unique as the previous review articles in this domain has not done any such analysis to find the average effect sizes of the relationships. Thus, the study expects to contribute in the literature of service marketing and consumer research in the service domain.

In the following sections the procedure applied in the meta-analysis is discussed in details followed by the description of the structural characteristics of the studies. Later a typology of the studies was done followed by the data analysis finding the relationship of wait for service and

service quality and satisfaction. The study concludes with focusing on the possible future areas of research and the contribution the current study.

2. Procedure

The relationship of wait for service and service outcomes can be studied by a detailed review of the literature available in the marketing, psychology and operations research literature regarding the wait for service. The author have chosen meta-analysis as the technique of studying the relationships of various consumer specific, service provider specific and environment specific variables on the service evaluations while waiting or delay is the part of the service process. Meta-analysis is an increasingly 'attractive alternative of integrating research findings' (Churchill et. al., 1985, p. 103) and to summarize the various results found on the relationships. Here the dependent variables are the results found in the studies and the independent variables are the various methodological and operational variables included in the studies. The variation in the results are tried to be explained under the scanner of such variables.

Here in this study the author has tried to categorize the studies on the mentioned topic from different sources based on their time and nature of research. The study has also focused on the independent variables to summarize the results of these studies included into the meta-analysis to provide the average effect size of the relationships and the confidence intervals for the same. The results are expected to give a clear picture about the findings in the area of wait for service and service evaluations.

2.1 Search of articles

For any meta-analysis the most important part is to find the articles and to set the rule of inclusions for the purpose of the research. The author has followed three steps to find the articles from the past literature base. They are

a) Index search

b) Reference list search

c) Contacting the authors

The first index search resulted in 33 journal articles which were published in various journals of marketing and psychology. The author was able to collect all the soft copies of all the 33 articles mentioned above. The next procedure was to find the further articles for the reference lists of the journal articles found till now and also from the articles found in the process. This gave a comprehensive list of 70 articles in the area of wait for service and service outcomes. Among the remaining 70 articles 7 were unpublished works which included dissertation papers, working papers and books. The rest were published journal articles which included journals of marketing, psychology and operations research. The author could collect the soft-copies of 64 articles out of the above mentioned 70 articles to initiate the study.

Meta-analysis is criticized to have several biases as the sampling procedure does not ensure that the sample is a representative one. The publication bias is one of the most important and most discussed bias meta-analysis technique has. Hence to ensure the avoidance of such bias the author tried to include the unpublished articles as much as possible. The third part of the search of articles is the most important and most tough part, which was done as suggested by Churchill et. al. (1985). The author has contacted all the authors of the articles in the above mentioned list of 70 articles and asked for any unpublished working papers or empirical data that can be included in the study. Due to lack of time research papers and white papers from the industry are not collected and the professionals in the service domain are not contacted. Out of them many has replied and noted that they have so such unpublished articles. Only one successful reply was obtained which made the list of available manuscripts to be of 65 in size.

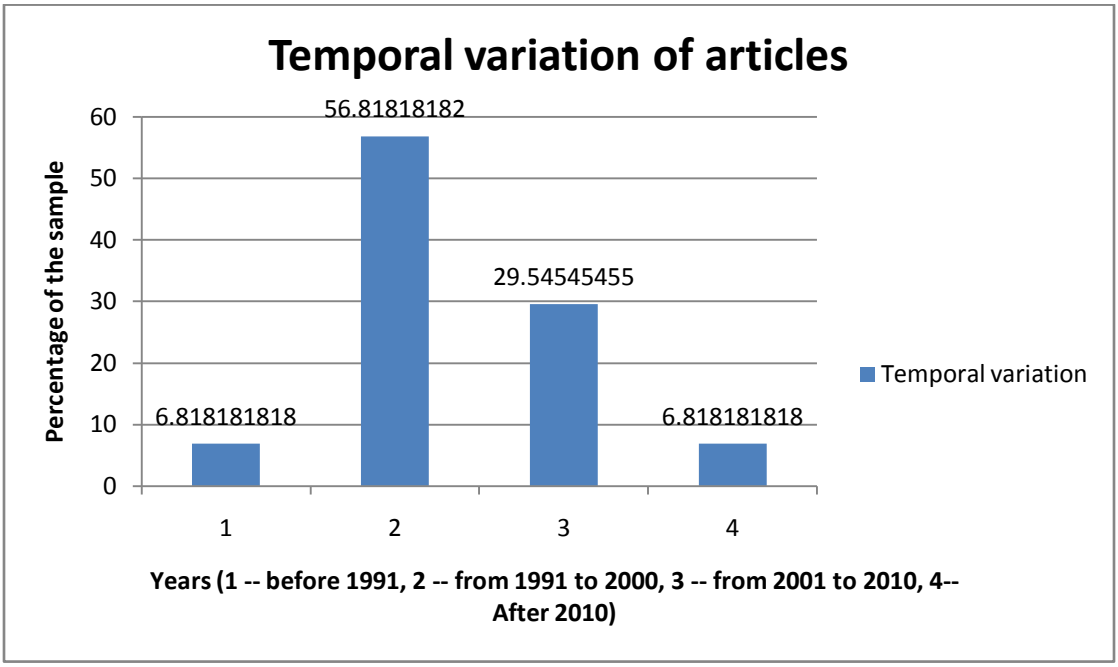
2.2 Inclusion of article

The next step was to decide which article has to be included and should be kept out of the analysis. As the meta-analysis is a procedure to combine the empirical findings of the articles the author has particularly focused on the empirical research works. Moreover only those articles are included which discuss about the impact of wait for service on service evaluations only. Out of the available soft-copies of 65 articles, 21 were rejected as they were identified to be conceptual articles or not describing the above relationships. So this resulted in 44 articles which were included for the final stage of the meta-analysis. The list of the articles can be obtained from the author on request.

2.3 Temporal Analysis of the sample

The temporal variation of the articles is important for doing the meta analysis on a particular topic. Fig 1 shows how the area emerged to be important in the area of the services marketing. The first empirical study on the topic of wait for services and its implications on the services outcomes have been reported in the eighties of the last century. A number of conceptual studies were also done at that time. Around 7% of total sample was from the years before 1991. The most productive time period for the area of study was the last decade of the last semester. Almost 57% of the sample articles were collected from this time period. Most of the theoretical structures and important variables related to cognitive and affective reactions of the consumers to the environment and behaviors of the service provider were established in this period. The next decade was more on re-establishing or rechecking the proposed theoretical structures in more realistic ways. Almost 30% of the total sample represents this time period. The few studies done after 2010 have not only focused on proving the previous findings realistically but also on giving new perspectives and new theories on the impacts of service delay.

Fig 1 – Temporal variation of the articles in the sample



2.4 Data Analysis

The method that has been chosen for the data analysis is random-effects model (Hunter and Schmidt, 2000; Hedges and Vevea, 1998) where the average effect sizes in the studies vary, which means the studies actually represents different populations of different effect sizes. This assumption actually includes one more error term which is also estimated in the data analysis procedure. The random-effects model are chosen because the author tried to find 'unconditional interferences' from the results which can be extended and used for further research (Hedges and Vevea, 1998).

Next, the choice of method is done. There are two primary methods of meta-analysis namely Hunter and Schmidt (2000) and Hedges and Vevea (1998). Both the methods have their set of advantages and drawbacks. It was empirically found by the previous researchers that for the random-effect model Hedges and his colleague's methods provide a little over-estimate while Hunter and Schmidt's method is much less bias and more accurate (Field, 2005). Hence the

Hunter and Schmidt (2000) method has been chosen. For the psychometric corrections for the attenuation of observed effect sizes which can be a result of the measurement errors, the methods applied by Hunter, Schmidt and Le (2006) will be used.

3. Systematic Review

In this section of the study the theoretical part of the studies in the sample are discussed in detail. The objective of this portion is to find a theoretical pattern of the studies and their effects on the results or outcomes of the study. Meta-analysis tries to find how a particular area of study evolved and how it can evolve in future.

3.1 Major theories used

3.1.1 First law of service and Principles of perception of waiting (Maister,1985)

One of the most used theories in the studies on wait for service is the famous "first law of service" and the principles of perception of waiting given by Maister (1985). According to him, satisfaction comes from the perception and expectation from the service. He has defined, Satisfaction = Perception – Expectation.

And hence, the perception of waiting is an important variable that effects the decision and evaluation of the consumers in case of services. This perception is affected by a number of situational and personal variables. The followings are the principles given by the Maister.

a) Unoccupied time seems to be longer than occupied time
b) Pre-process waits and longer than in-process waits
c) Anxiety makes wait seem longer
d) Uncertain waits seem to be longer than certain and finite waits
e) Unexplained waits are longer than know waits
f) Unfair waits are longer than equitable waits

g) The more valuable the service the longer people will wait

h) Solo waiting feels longer than group waiting

The above principles gave the theoretical background for many articles in the sample.

3.1.2 Disconfirmation Theory (Anderson, 1973; Parasuraman et. al., 1994)

Similar to Maister's first principle of service, a number of researchers have proposed disconfirmation theory as one of the major theory to explain consumer satisfaction for services (Anderson, 1973; Parasuraman et.al., 1994). According to them, Satisfaction is a function of disconfirmation of perception from expectation, i.e,

Satisfaction = f(Perception – Expectation)

This expectation is built from either pre-usage advertising or word of mouth, or from past experience of usage. Perception is built when the service encounter occurs and building of such perception is a cognitive process. Hence variables that can affect the cognition of the individuals can alter the perceptions of service experience. High satisfaction occurs when perception is more than desired service level, satisfaction occurs when it is between desired and expected service level and dissatisfaction occurs when it is below expectation level (Davis and Heineke, 1988).

3.1.3 Field Theory (Lewin, 1943)

The field theory suggests a field of life space which includes several psychological forces acting upon an individual. The behavior of the individual is actually an outcome of all such forces acting together at a particular time period on the individual (Lewin, 1943). The various usage of field theory in social science was shown by Lewin (1951) in his articles. Kassarijan (1973) has identified the theory to be useful for the studies of individual behaviors, cognitions and emotions. Later it has been used in queue based studies and the behavior of individuals as well.

3.1.4 Rhythm of external forces (Marcar, 1980)

In 1980, Marcar have pointed that the rhythm of the external forces acting upon an individual effects the time perception of the individual. He has established that divided intervals of time are often overestimated by the individuals. This helps in explaining how time and delay types can affect the consumer's delay perceptions.

3.1.5 Uncertainty Reduction

Uncertainty reduction is very important for delay in service conditions. Maister (1985) have expressed that uncertainty can be a major cause of the stress occurred in an individual and Taylor (1994) found that such uncertainty can have an impact of the affective responses of the individuals. Such uncertainly about 'wastefulness' creates sunk-cost effects on individuals (Arkes and Balmer, 1985) and also a threat to completion of the reward (Hui et. al., 1998). Hence any information about the wait can reduce such uncertainty occurred in the consumer and also the stress levels (Osuna, 1985).

3.1.6 Attribution Theory

The attribution theory has remained as one of the important aspect of the service failure literature for years. Weiner (1979) have given an attribution model which has three main aspects of attribution, namely

a) Locus: This explains who is responsible for the service failure, internal causes or external causes.
b) Stability: This explain how stable are the causes of service failure and how stable are the extent of the service failure
c) Controllability: This explains whether the cause of the service failure can be controlled and in if so then in what extent.

Bitner (1990) has found that such attributions actually impact the service evaluations of the consumers and Taylor (1994) has found the mediating effect of anger or affective components in it. Hence delay attribution is also in important factor for the wait for service literature.

3.1.7 Mood

Mood has been found to be an important variable of study in the consumer behavior research. A number of theories on mood and its effects on judgment and evaluation has been formed by researchers which has been used in the services marketing literature as well.

a) Mood-attribution relationship

According to 'self-enhancement theory' by Clark and Isen (1982) individuals attribute self for success and others for failure. But according to 'cognitive theory' as supported by Forgas et. al. (1990) negative mood can change the above mentioned attributions. These two contradictory theories in mood-attribution relationship were important for wait for service studies.

b) Mood congruence and music

According to the mood congruence theory positive mood impacts the evaluation of various aspects for the individuals to ensure that the individual can sustain his positive mood (Schwarz and Clore, 1983). Music is known to influence the mood of the individuals and also affects the affective components of the individuals (Bruner 1990). Hence both music and mood congruence is important for service evaluations in the case of wait for service.

3.1.8 Social system and social justice

The waiting for service in a queue has been identified as social system by many researchers (Schmitt et. al., 1982) and the behavior in a queue has been identified to be in sync with social system theories. Cooley (1964) has identified the negative behavioral responses of the waiting consumers against intrusions etc as 'moral outrage' which is related to breaking of social norms.

Even in a queue people look for social validation that it is worth waiting for by looking back checking how many people are waiting behind him (Cialdini 1985).

Each social system has some social rules and norms and violations of them would lead to issues of fairness and justice. Larson (1987) has found that social justice is an important factor for the satisfaction of the consumers with the service. Zhou and Soman (2005) have focused on both first order justice and second order justice in a queue system where the former is about the FIFO system proposed by Larson (1987) and the later one is about justice in waiting time that everyone in a queue should wait equal amount of time. According to them both forms of justice impact the service satisfaction. Other than justice, social regard has also been found to be important for service evaluations historically (Butcher and Heffernan, 2006).

Table 2 contains the list of the major theories used in the wait for service literature and the number of articles that has used such theories.

Table 2: Major theories used in the sample articles collected

Theory Used	Author of the theory	Summary of the theory	Number of studies
First Law of Service	Maister (1985)	Satisfaction = Perception - Expectation	4
Principles of perception of waiting	Maister (1985)	a) Unoccupied time seems to be longer than occupied time, b) Pre-process waits and longer than in-process waits, c) Anxiety makes wait seem longer, d) Uncertain waits seem to be longer than certain and finite waits, e) Unexplained waits are longer than know waits, f) Unfair waits are longer than equitable waits, g) The more valuable the service the longer people will wait, h) Solo waiting feels longer than group waiting	8

Field Theory	Lewin (1943)	Individual's behavior which includes the affective and cognitive aspects comes from a set of psychological forces acting on him at a given time periood.	4
Disconfirmation Theory	Anderson(1973) , Parasuraman et. al. (1974)	Satisfaction = f(Perception - Expectation)	5
Rhythm of external forcer	Macar (1980)	The rhythm of the external forces acting upon an individual effects the time perception	2
Uncertainty reduction	Maister (1985), Osuna (1985), Taylor (1994), Hui et. al. (1998)	Uncertainty creates sunk-cost effects and threats to completion of rewards. This in turn impacts the stress levels and affective responses. Reduction of uncertainty can be done by information	3
Attribution Theory	Weiner (1979), Bitner (1990)	Consumer's attribution about the service failure effects the service quality perceptions. There are three main aspects of attribution (A) Locus of causality (B) Stability (C) Controllability	5
Mood	Clark and Isen (1982), Forgas et. al. (1990), Schwarz and Clore (1983), Bruner (1990)	Self-enhancement theory, Cognitive theory, Mood congruence and Music	7
Social system and social justice	Schmitt et.al. (1982), Larson (1987), Zhou and Soman (2005), Butcher and Heffernan (2006)	Social system, social justice (first order and second order), social regard	7

3.2 Variables Used

In this section of the review the various variables used in the literature are discussed. According the use of basic theory and the methodology, the authors adopt different variables and measures

to find the relationships which are more or less comparable. Hence a detailed study of the variables used is necessary.

3.2.1 Dependent Variables

The major dependent variables that have been studied in the articles of the sample are listed in Table 3. The major dependent variables used in these articles can be divided into three main groups, namely 'Service quality evaluation', 'Satisfaction' and 'Affective and behavioral response'. While in most of the cases, service quality evaluation and satisfaction has been measured for the overall services, in a very few cases the waiting time and waiting experience has also been evaluated (Antonides et. al., 2000) and satisfaction related to waiting or time has also been considered (Gracia et.al., 2012). These dependent variables are in line with the services literature and are also highly inter-related in cause effect relationships (Taylor and Baker, 1994). Hence choosing one of these variables as the main dependent variable as study helps to place it in the literature. In our study the relationships of these three dependent variables with many other independent variables, as found in the sample set of articles, is studied.

Table 3: The list of dependent variables in the articles

Dependent variable groups	Dependent Variables	Number of articles	Total Number of Articles
Service Quality Evaluation	Perceived Service Quality	3	16
	Overall service quality	4	
	Service Quality	2	
	Service evaluation	3	
	Overall evaluation	1	

	Overall experience evaluation	1	
	Wait evaluation	1	
	Attitude towards service	1	
Satisfaction	Customer Satisfaction	4	12
	Overall satisfaction	1	
	Time satisfaction	1	
	Satisfaction	6	
Affective and behavioral response	Affective Response	3	11
	Affective state	1	
	Emotional and behavioral response	4	
	Negative emotional response	1	
	Store patronage intentions	1	
	Consumers' future intentions	1	

3.2.2 Independent variables

In this section the various independent variables which have been considered in the sample articles and have been found to affect the above mentioned dependent variables directly or indirectly.

(A) External Variables

a) Point of delay

The point of delay has been found to be an important factor for the effect of service delay on perceived service quality. It has been found that the pre-process and post-process delay is more adverse on consumer satisfaction and affective response than the in-process delay and the need state acts as a moderating variable on such affect (Dube-Riox et. al., 1989; Dube et. al., 1991). This can be explained by the Lewin's (1943) field theory based on which it can be said that the nearing goals at the post-process and the pre-process stage increases the stress on the consumers resulting in such adverse effects on quality perceptions. Davis and Maggard (1990) have also found that point of delay acts as a moderating variable on the impact of service delay on consumer satisfaction. Hui et. al. (1998) have found that the impact of service stage when delay has occurred on service evaluations is moderated by type of delay and its perceived threat on likelihood of service completion. A procedural delay away from the goal stage leads to more negative affective response and such is the case for a correctional delay near to the goal stage.

b) Attribution

Attribution of the cause of delay to the provider has a significant direct effect on satisfaction in the case of delay (van Riel et. al., 2012). Stability and control are two important factors of attribution which is very closely related to the consumers' perceptions about quality and satisfaction. Taylor (1994) has found that stability of cause has significant positive impact on the overall service quality while the degree of control of the provider of the cause of delay has a significant negative impact. Such impacts are moderated by affective and emotional responses like anger, sense of punctuality and uncertainty (Taylor, 1994). On the other hand Tom and Lucey (1995) have shown that control and stability of the delay cause may also act as the

moderating variables that impact the relationship between wait for service and service quality. This is also supported by the findings of Taylor (1995). Chebat et. al. (1995) have found that attributions impact the attributes of service quality which are related to relational dimensions. Control is also found to mediate the impact of waiting information on attitude towards service (Hui and Zhou, 1996). Groth and Gilliland (2006) have done significant contribution in this domain. They found that providing a 'provider-not-at-fault explanation' led to the most positive outcome, whereas no explanation led to more positive reactions than a provider-at-fault explanation.

Table 4 gives a brief details about the external independent variables and their impacts on service outcomes, as found by the researchers.

Table 4: Brief details of the external independent variables and their impacts on service outcomes

IV Type	IV	Main Variable	Moderator	Mediator	Direction of the effect of IV	Dependent Variable	Author
External Variable	Point of delay	Point of Delay		Need State		Service Quality	Dube-Riox et. al. (1989)
		Point of Delay				Affective Response	Dube et. al.(1991)
		Service delay	Point of Delay			Satisfaction	Davis and Maggard (1990)
		Point of Delay	Type of delay (procedural /correctional), likelihood of completion of service			Service Quality	Hui et. al. (1998)

	Attribution	Cause attribution to service-provider			-	Satisfaction	van Riel et. al.(2012)
		Stability			+	Service Quality	Taylor (1994)
		Degree of control			-	Service Quality	
		Wait for service	Stability, Control		+ , -	Service Quality	Tom and Lucey (1995), Taylor (1995)
		Attribution			-	Service Quality (Relational Dimensions)	Chebat et. al. (1995)
		Waiting Information		Control	+	Attitude toward Service	Hui and Zhou (1996)
		Provider not a fault attribution			+	Service Outcomes	Groth and Gilliland (2006)

(B) Internal Variables

a) Perceived waiting time

It is not the objective waiting time which has direct impact on service outcomes. Rather the consumers develop a perceived waiting time in their main based on the environmental conditions and the internal conditions which in turn affects the perceived service quality and satisfaction levels of the consumers (Katz et. al., 1991; Chebat and Filiatrault, 1993; Puryn and Smidts, 1998). Davis and Heineke (1998) have also added that the perceived waiting time model, where satisfaction is a function of perceived waiting time, is a better predictor of satisfaction than disconfirmation model, where satisfaction is a function of disconfirmation of perception from expectation of waiting time.

b) Reasonable waiting time / Acceptability

The perception of the reasonable waiting time or acceptability of the waiting time is also an important factor of consumer satisfaction and perceived service quality. This acceptability or sense of reasonable waiting time creates the expectation for the consumers and positive disconfirmation from such reasonable waiting time adversely affects the satisfaction level of the consumers (Katz et. al. 1991; Chebat and Filiatrault, 1993; Puryn and Smidts, 1998). Acceptability also acts as mediating variable between information of waiting and service quality perception (Hui and Tse, 1996; Hui and Zhou, 1996) and between wait cost and overall service quality (Huston et. al., 1998).

c) Punctuality

The sense of punctuality is an important mediating variable between service delay and overall service quality (Taylor, 1994). Delay will not only create negative evaluations for punctuality and overall service, but also will increase the relative important of punctuality over other attribute. Hence the sense of punctuality becomes important in the case of service delays. Mood may act as moderating variable (Taylor and Claxton, 1994) in this relationship. Researchers have also found that sense of punctuality creates anger which in turn impacts the satisfaction level of the consumers (Diaz and Ruiz, 2002). Hence punctuality is a significant variable in service delay domain.

d) Mood

The mood of the consumers' is an important factor for consumer's attitude and reactions. Mood moderates the impact of delay on the sense and importance of punctuality (Taylor and Claxton, 1994). Moreover mood also impacts the attributes of service quality which are related to personnel contact, like responsiveness, empathy etc. (Chebat et. al., 1995).

e) Affective response

Affective response of the consumers has been found to be an important factor in service delay situations. Controlling such negative affective responses can lead to better service evaluations (Huston et. al., 1998). Affective response like anger, frustration etc. acts as the mediating variable between delay and service evaluation (Taylor, 1994; Huston et. al., 1998; Puryn and Smidts, 1998) and also between waiting information and service evaluation (Hui and Tse, 1996).

f) Circadian Orientation

Aschoff (1984) have found that circadian cycles may affect the behavioral patterns of the individuals in day and night. Marquis and Dube (1994) have found that people with morning circadian orientation unexpected delay will lead to more negative responses.

g) Type A/B Behavioral Pattern

Type A/B behavioral pattern, more used in medical literature, identifies that Type A people are competitive, aggressive and more hostile and Type B people are relaxed and easy-going (Jenkins et. al., 1979). Marquis and Dube (1994) have found that people with Type A behavioral pattern are more oriented to speed and hence for them an unexpected delay will lead to more negative responses.

h) Time style and Active/Passive impatience

Usunier and Valette-Florence (1991) have developed an important psychometric scale of time style of the individuals. Using two of the facets on this time style scale Durrande-Moreau and Usunier (1999) found that time style or time orientation is an important individual-specific variable that impacts the reactions of consumers to delays. Future orientated time style people are generally more motivated towards active impatience, where they themselves take actions to

make things happen rather than waiting and feeling the time to be longer. Both active and passive impatience in turn affects satisfaction level of the consumers.

i) Self-awareness

Based on the self-awareness literature developed by Carver and Scheier (1987) and Cheek and Briggs (1982), which talks about two different kinds of self-awareness, namely public and private, Marquis (1998) found that high public self-awareness people are more affected by wait and have higher temporal sense. High private self-aware people also have high temporal sense than low private self-aware people and they attribute to the controllability dimension higher

j) Stress coping strategy

Based on Duhachek's (2005) study on stress coping strategy of individuals, Miller et. al. (2008) have found differential effects of delay on consumers with different stress coping strategies, namely approach-oriented and avoidance-oriented. Miller and his colleagues have mainly focused on services with negative outcomes. They found that for consumers using approach-oriented strategies shortened wait times lead to increase of stress. On the other hand, duration information leads to increased stress for consumers using avoidance-oriented strategies.

Table 5 gives a brief details about the internal independent variables and their impacts on service outcomes, as found by the researchers.

Table 5: Brief details of the internal independent variables and their impacts on service outcomes

IV Type	IV	Main Variable	Moderator	Mediator	Direction of the effect of IV	Dependent Variable	Author
Internal Variables	Perceived Waiting time	Perceived Waiting time			-	Service Quality / Satisfaction	Katz et. al. (1991); Chebat and Filiatrault (1993); Puryn and Smidts (1998)
		Perceived Waiting time			-	Satisfaction	Davis and Heineke (1998)
	Acceptability / Reasonable Waiting Time	Acceptability / Reasonable Waiting Time		Disconfirmation	+	Satisfaction	Katz et. al. (1991), Chebat and Filiatrault (1993), Puryn and Smidts (1998)
		Information of waiting		Acceptability	+	Service Quality	Hui and Tse (1996), Hui and Zhou (1996)
		Wait cost		Acceptability	+	Service Quality	Huston et. al. (1998)
	Punctuality	Service Delay	Mood	Punctuality	+	Service Quality	Taylor (1994)
		Punctuality		Anger	+	Satisfaction	Diaz and Ruiz (2002)

	Mood	Mood			+	Service Quality (Personal contact)	Chebat et. al. (1995)
	Affective response	Affective response			+	Service Quality	Huston et. al. (1998)
		Delay		Affective response	+	Service Quality	Taylor (1994), Huston et. al. (1998)and Puryn and Smidts (1998)
		Waiting Information		Affective response	+	Service Quality	Hui and Tse (1996)
	Circadian Orientation	Delay		Circadian Orientation	-	Behavioral and emotional response	Marquis and Dube (1994)
	Type A/B Behavioral Pattern	Delay		Type A/B Behavioral Pattern	-	Behavioral and emotional response	Marquis and Dube (1994)
	Time Style	Future Oriented Time Style		Active Impatience	-	Satisfaction	Durrande-Moreau and Usunier (1999)
	Self-awareness	Delay	High public self awareness		-	Satisfaction	Marquis (1998)
		Control	High private self awareness		+	Satisfaction	

(C) Controllable Situational Variables

a) Distraction

It has been noticed by Katz et. al.(1991) that distraction acts as a moderating variable on the impact of perceived waiting time and disconfirmation on satisfaction. A distracted consumer underestimates the waiting time and hence is less adverse towards the satisfaction level or service quality perceptions. These views are also supported by other researchers who have found direct impact of distraction on satisfaction for retail customers who face delay (van Riel et. al., 2012).

b) Social Justice and Social regard

As queues are seen as a social system any illegal intrusion in the queue system is considered as the breaking of norms and absence of social justice and hence behavioral and emotional responses of the participants of the queue is expressed. Such impacts are moderated by legitimacy of the intrusion and social influence of the participants in the queue (Schmitt et. al., 1992). Rafaeli et. al. (2002) have also found that queue structures (multiple or single) affects the perceived fairness, arousal and predictability of wait thus affecting the service quality perceptions. van Riel et. al., (2012) expressed similar results in their studies where social injustice had a direct negative effect on consumer satisfaction in case of retail store. Zhou and Soman (2005) have found that second order justice, which says that everyone should wait equal amount of time irrespective of when they arrive, is also an important factor over normal sense of justice, which is mostly related to first come first served. They found that delay related to low second order justice adversely impacts the affect of the consumers, more so when it is attributed the service provider. But second order justice will only impact when first order justice is met (Zhou and Soman, 2005).

Butcher and Heffernan (2006) have also added that social regard and interactional justice also plays important roles in behavioral responses of the consumers. Employee friendliness and seeking apology are important in this case.

c) Participation/Interruption

Participation and interruption acts as two major independent variables that can be controlled by the service providers to manage the service outcomes resulting from service delays. Participation in the service production leads to decrease in perceived waiting time which in turn leads to better mood and better PSQ (Chebat and Filiatrault, 1993). Interruptions in service do the opposite as it makes the consumers more alert and the rhythm of external factors is broken (Macar, 1980). Similarly the degree of filled times also has a positive impact on the overall service quality felt by the consumers (Taylor, 1994). The degree of filled time also moderates the effect of service delay on the service quality perceptions (Taylor, 1995).

d) Information and waiting time guarantee

Information is known to reduce the uncertainty improving the stress level of the consumers. Hence providing information related to waiting has been considered as important variable for many researchers. Hui and Tse (1996) have found that affective response and acceptability of wait have significant mediating effect between information and service evaluation, but perceived waiting time does not have. For short wait both wait length information and queuing information are irrelevant, for immediate wait waiting length information is more important and the opposite for long wait (Hui and Tse, 1996). Hui and Zhou (1996) have also found that waiting time information impacts the attitude of the consumers towards service through the mediating effect of control for short length and acceptability for long length. The above views are supported by many researchers in the service delay domain (Antonides et.al., 2000). Garcia et. al. (2012) have

also found similar results. Countdown information has also been found to be an important variable that reduces the negative impact on the service evaluation due to delay. Dellaert and Kahn (1999) asserted the above relationship based on random utility theory. On the other hand, Groth and Gilliland (2006) have found limited support of the effect on providing waiting duration estimates on consumer's service evaluation. Butcher and Kayani (2008) have found the moderating effect of goal attractiveness and usage rate on the effectiveness of such information on service outcomes. In their study, for high goal attractiveness and low usage rate such information worked best.

Waiting time guarantee, just like waiting time information, reduces the stress level associated with the wait. Hence, when the guarantee is met both in process and end of process satisfaction is increased. But adverse effects are seen when such guarantees are not met, more so in the initial stage of the service process (Kumar et. al., 1997).

e) Music

Music is well-known as the mood enhancer in the psychology literature for years. In the context of service delay also the researchers have found the impacts of music. As found by Hui and Laurette (1997) music, more so for positively valenced music, reduces the perceived waiting time and increases the attitude towards waiting environment, which in turn positively impacts the behavioral responses of the consumers. On the other hand Cameron et. al.(2003) found that, in low cost waiting, music impacts both perceived waiting time and mood. But only mood, and not perceived waiting time, impacts overall evaluation. Antonides et.al. (2000) have also found that music moderates the impact of service delay on service evaluation and it also has a direct impact on the evaluation. Grewal et. al.(2003) have added that music, along with number of visible customers and number of visible employees, impacts store atmosphere evaluations, wait

expectations and perceived consumer density, which in turn impacts store patronage information. Areni and Grantham (2009) added a new aspect of the effectiveness of the music. They explained that music likability makes people feel the passage of time quickly and such feelings mediate the effect of music likability of affective state, which perceived duration of wait and disconfirmation from expectation does not.

f) Environment

Pruyn and Smidt (1998) have found that the attractiveness of the environment takes the affective route to impact the satisfaction of the consumers. It also influences the mood of the consumers to induce positive impacts on satisfaction. The attractiveness of the waiting area has also been found to be an important variable to impact the satisfaction of retail store customers (van Riel et. al., 2012).

Table 6 gives a brief details about the controllable situation independent variables and their impacts on service outcomes, as found by the researchers.

Table 6: Brief details of the controllable situational independent variables and their impacts on service outcomes

IV Type	IV	Main Variable	Moderator	Mediator	Direction of the effect of IV	Dependent Variable	Author
Controllable Situational Variables	Distraction	Perceived Waiting Time	Distraction		+	Satisfaction	Katz et. al. (1991)
		Disconfirmation	Distraction		+	Satisfaction	
		Distraction			+	Satisfaction	Riel et. al. (2012)

	Social regard and social justice	Intrusion	Legitimacy, Social Influence			Behavioral and Emotional responses	Schmitt et. al. (1992)
		Queue Structure		Perceived Fairness	+	Service Quality	Rafaeli et. al. (2002)
		Social Injustice			-	Satisfaction	van Riel et. al., (2012)
		Second order jusice			+	Behavioral and Emotional responses	Zhou and Soman (2005)
		Social Regard		Interactional Justice	+	Behavioral and Emotional responses	Butcher and Heffernan (2006)
	Participation and Interruption	Participation		Perceived waiting time	+	Service Quality	Chebat and Filiatrault (1993)
		Interruption		Perceived waiting time	-	Service Quality	
		Degree of filled times			+	Service Quality	Taylor (1994)
		Service delay	Degree of filled times		+	Service Quality	Taylor (1995)
	Information and waiting time guarantee	Information	Length of wait	Affective response, Acceptability, Control	+	Service Quality	Hui and Tse (1996); Hui and Zhou (1996); Antonides et.al. (2000)
		Countdown Information			+	Service Quality	Garcia et. al. (2012); Dellaert and Kahn

							(1999)
		Information			+	Service Quality (Limited evidence)	Groth and Gillilan d (2006)
		Information	Goal attractivene ss, Usage rate		+	Service Quality	Butcher and Kayani (2008)
		Waiting time guarantee	Stage of delay		+	Service Quality	Kumar et. al.(1997)
	Music	Music	Valence	Perceived waiting time, Attitude towards environme nt	+	Behavioral and Emotional responses	Hui and Laurette (1997)
		Music		Mood (and not perceived waiting time)	+	Service Quality	Camero n et. al.(2003)
		Music			+	Service Quality	Antonid es et.al. (2000)
		Service delay	Music		+	Service Quality	
		Music			+	Behavioral and Emotional responses	Grewal et. al.(2003)
	Environm ental attractiven ess	Environment al attractiveness		Mood, Affect	+	Satisfactio n	Pruyn and Smidt (1998)
		Attractivenes s of waiting area			+	Satisfactio n	(van Riel et. al., 2012)

4. Data analysis results

In the data-analysis part of the meta-analysis project the Hunter-Schmidt (2004) method explained by Field and Gillett (2010) is followed. The following table 7 and table 8 gives the effect sizes and the values of the sample sizes explaining the relationship between waiting time and service quality and waiting time and satisfaction.

The average effect size of the relationship between waiting time and satisfaction has been found to be -0.3021. This means that the effect of waiting time on the satisfaction of the consumers is negative in nature and moderate in magnitude. Moreover, according to the Hunter and Schmidt (2004) method the variance of the sample effect sizes and the estimated sampling error variance are calculated which came out to be 0.019213 and 0.000128 respectively. To estimate the variance in the population correlations the sampling error variance is subtracted from the total variance of the effect sizes. Hence the variance in population correlations is 0.019085. This gives the 95% confidence interval of the average effect size to be between (-0.57286, -0.03132). The homogeneity of the effect sizes are calculated from the chi square distribution. The chi square value for waiting time and satisfaction relationship is $\chi^2(7) = 149.81$, $p<0.001$. Hence the values of the effect sizes are homogeneous.

Similarly, the average effect size of the relationship between waiting time and service quality has been found to be -0.37042. This means that the effect of waiting time on the satisfaction of the consumers is negative in nature and moderate in magnitude. Similar to the previous method, the variance of the sample effect sizes and the estimated sampling error variance are calculated which came out to be 0.083113 and 0.000439 respectively. To estimate the variance in the population correlations the sampling error variance is subtracted from the total variance of the effect sizes. Hence the variance in population correlations is 0.082674. This

gives the 95% confidence interval of the average effect size to be between (-0.93398, 0.193138). The chi square value for waiting time and service quality relationship is $\chi^2(6) = 169.7451$, $p<0.001$. Hence the values of the effect sizes are homogeneous

Table 7: Summary of effect size and sample size for various studies which finds the relationship of waiting time and satisfaction

Name of author	N	r	Nxr
Davis and Maggard (1990)	723	-0.228	-164.844
Kumar et. al. (1997)	128	-0.11	-14.08
Pruyn and Smidts (1998)	337	-0.1235	-41.6195
Davis and Heineke (1998)	717	-0.215	-154.155
Durrande-Moreau and Usunier (1999)	321	0.0567	18.2007
Bielen and Demoulin (2007)	946	-0.2278	-215.4988
van Riel et.al.(2012)	150	-0.208	-31.2
Garcia et. al. (2012)	3130	-0.43	-1345.9
Total	6452		-1949.0966
Final Effect Size			-0.30209185

Table 8: Summary of effect size and sample size for various studies which finds the relationship of waiting time and overall service quality

Name of author	N	r	Nxr
Taylor (1994)	210	-0.1958	-41.118
Taylor and Claxton (1994)	388	-0.3614	-140.223
Tom and Lucey (1995)	240	-0.535	-128.4
Taylor (1995)	232	-0.2061	-47.8152
Huston et. al. (1998)	191	-0.1076	-20.5516

Dellaert and Kahn (1999)	198	-0.1	-19.8
Antonides et. al. (2000)	236	-0.9744	-229.958
Total	1695		-627.866
Final Effect Size			-0.37042

5. Discussion

In this article the author tries to find the impact of service delay on the service outcomes and have focused on several moderating and mediating variables that can impact the effect of service delay on outcomes. The importance of time has been well identified by the past researchers in the domain of services (Parasuraman et. al., 1994) and hence delay management has become a major issue for the service providers. Delay management has two main components, one is operational and is related to reducing the delay time and the other one is perceptual and is related to reducing or affecting the perceptions of the consumers who are delayed (Davis and Vollman, 1990). This two parallel set of literature has created a new domain in the service research concept.

The service delay and perception management literature has been developed in the last three decades by a number of prominent researchers. A number of theories has been developed and used to establish interesting results by the researchers. But a very few initiative was taken before to comprehend the results of all such studies. The author has found only one such review literature by Durrande-Moreau (1999) which was also limited due to lack of papers included and no data analysis done. Hence the author has adopted the meta-analysis technique as the methodology of the research. Meta-analysis has been suggested by many researchers to summarize the huge information available in the literature and to explain the variation in the same (Glass et. al., 1981). Thus the meta-analysis done by the author to find the various

relationships of internal and external variables on service outcomes followed by a service delay is justified.

The report of the study started with the introduction and motivation of the study, followed by the procedure used for the meta-analysis, including the literature search, inclusion criteria, temporal analysis etc. Next a systematic review of the literature available is done to get which theories are used for the empirical analyses of the studies and. The systematic review also helped to categorize the dependent variables of the service outcomes and the independent variables affecting the dependent variables. The author has found three categories of dependent variables, namely 'service quality', 'satisfaction' and 'behavioral and emotional response'. The three categories of independent variables are 'internal variables', 'external variables' and 'controllable situational variables'. While the 'internal variables' were more related to the consumer and his individual specific characteristics, 'external variables' are service specific characteristics and 'controllable situational variables' are those which the service provider can modify to affect the delay and outcome perceptions of the consumers. This categorization is significantly different from that of Durrande-Moreau (1999) mainly because the previous researchers did not have all the variables with them while they performed their study.

The last but not the least was the data analysis where the author has shown that the service delay impacts the satisfaction and service quality moderately, having the average effect size of -0.3 and -0.37 respectively. While service quality has more negative impact due to service delay, as found from the meta-analysis data, the confidence internal of the effect sizes on service quality includes positive values as well. This creates a significant chance that there can be cases when service delay is evaluated positively. Such examples are also seen in studies of Giebelhausen et. al. (2011), where wait or long queue may signal quality, and also in studies of

Miller et. al.(2008), where reducing wait creates more stress for services with negative outcomes. Hence the results found in the meta-analysis do raise some scopes for the further research.

6. Managerial Implications

The above study can help the service managers in manifold ways. Firstly the major ways to handle the adverse effects of the service delays have been discussed in the above study. The review shows how various steps taken by the service managers can make difference in managing service failures and ensuring service recovery. Providing right information at the right moment is one of the most important steps to be taken by the service managers during service delays or service queues. Researchers have extensively suggested the effectiveness of different information, like waiting length information, queuing information, countdown information, waiting time guarantee etc., in different situations including various delay lengths, goal attractiveness and usage types. Such results may help the service managers to design their strategy efficiently, more so in the services like banks, call centers, airlines etc.

Moreover, the impact of the environmental factors have also been extensively studied in this review which gives a clear idea how store environment, including music, lighting, service scape etc. can impact the consumers in delay situations. This has extensive use in services like banks, retail shops etc. where service delay and service queues occur very often.

Another major way of making service delay less harmful is by leading the consumers to participate in the service delivery process and by ensuring filled times. This finding goes hand in hand with the co-creation literature of services marketing, where the participation of the consumers in the service delivery process ensures creation and delivery of higher service values.

The review also gives a nice way to handle the diversity of the consumers in terms of their sensitivity towards service delays and waits. Variables like circadian orientation, time style,

self-awareness and type A/B behavioral pattern produce nice ways to categorize the customers to ensure better segmentation of the customer group of the service providers. Service managers can go beyond the segmentation based on the acceptability of wait and sense of punctuality to include the previously mentioned variables. How such variables can be included in the segmentation process separately has been discussed extensively by the respective researchers, but assimilation of such variables in the segmentation process can be done by the service managers.

7. Conclusions

The primary limitation of the above study is the followings. The study has only done the meta-analysis of the direct impacts of waiting time on service outcomes. It did not include the data-analysis on the relationships of the various variables which moderates or mediates the impacts on service outcomes or directly impacts the service outcomes. This is because the lack of various studies explaining one relationship. The author decided to not include such relationships in the data-analysis which is studied in at least three cases. Hence only the above two relationships are studied.

The possible future research direction in this domain of literature as found by the author is the following. Maister (1985) has suggested that group waits are shorter than waiting alone. Pruyn and Smidts (1999) have found that wait with group is acceptable only for small waits and for cases with uncertainty. But there are several aspects of waiting with others that remains unexplained. Zajonc (1965) have focused on social facilitation theory which says that the underlying responses become explicit when individuals are with similar minded group. Hence waiting with a group who can decrease the uncertainty and stress can have a positive impact. But on the other hand, waiting with a group which itself are also affected by the uncertainty and

stress related to waiting can result in negative results. Hence the impact of group characteristics on individual responses can be a future area of study for the researchers.

One more possible research arena is how the information about the queue structure impacts the consumer behavior in the queues for various types of queues. The information of various part of a service queue has different impact on consumers both when they are joining the queue and when they are waiting in the queue after joining. Such impacts are also different for different situations like service uncertainty, service limitations etc. Further studies can look into these matter to make the strategic decisions of the service providers more efficient.

The author sincerely hopes that the above study and extension of the same will help the future researchers to comprehend the previous studies done in this domain and to understand how the domain evolved. The possible future direction also show the way ahead in this domain. The current study, hence, tries to contribute in the literature of wait for service and its outcomes.

References

1. Anderson, R E, 1973, Consumer dissatisfaction: the effect of disconfirmed expectancy on perceived product performance, *Journal of Marketing Research*, Vol. 10, February.
2. Antonides, G, Verhoef, P. C. and Aalst, M. V., 2000, Consumer Perception and Evaluation of Waiting Time, *ERIM Report Series*, ERS-2000-35-MKT.
3. Areni, C and Grantham, N, 2009, (Waiting) time flies when the tune flows: Music influences affective responses to waiting by changing the subjective experience of passing time, *Advances of Consumer Research*, 36, pp. 449-455
4. Arkes, H. R. and Bulmer, C, 1985, The psychology of Sunk Cost, *Organizational Behavior and Human Decision Process,* 35(February), pp. 124-140
5. Bielen, F and Demoulin, N, 2007, Waiting time influence of satisfaction-loyalty relationship, *Managing Service Quality*, 17(2), pp. 174-193
6. Bitner, M. J., 1990, Evaluating service encounters: The effects of physical surroundings and employee responses, Journal of Marketing, 54(April), pp. 69-82
7. Bruner, G C, 1990, Music, Mood, and Marketing, *Journal of Marketing*, 54 (October): pp. 94-104.
8. Butcher, K and Heffernan, T, 2006, Social regard: A link between waiting for service and service outcomes, *Hospitality Management*, 25(1), pp. 34-53
9. Butcher, K and Kayani, A, 2008, Waiting for service: Modeling the effectiveness of service interventions, *Service Business*, 2, pp. 153-165
10. Cameron, M. A., Baker, J, Peterson, M and Braunsberger, K, 2003, The Effects of Music, Wait-Length evaluation, and Mood on a Low-Cost Wait Experience, *Journal of Business Research*, 56(3), pp. 421-430

11. Carver, C. S. and Scheier, M. F., 1978, Self-Focusing Effects of Dispositional Self-Consciousness, Mirror Presence, and Audience Presence, *Journal of Personality and Social Psychology*, 36(3), pp. 324-332
12. Chan, E and Mukhopadhyay, A, 2010, When Choosing Makes a Good Thing Better: Temporal Variations in the Valuation of Hedonic Consumption, *Journal of Marketing Research*, 47(5), pp. 497-507
13. Chebat, J. C. and Filiatrault, P., 1993, The impact of waiting in line on consumers, *The International Journal of Bank Marketing*, 11(2), pp. 35-48
14. Chebat, J.C., Filiatrault, P, Gélinas-Chebat, C and Vaninsky, A, 1995, Impact of Waiting Attribution and Consumer's Mood on Perceived Quality, *Journal of Business Research*, 34(2), pp. 191-196
15. Cheek, J. M. and Briggs, S. R., 1982, Self-consciousness and aspects of identity, *Journal of research in personality*, 16(4), pp. 401-408
16. Churchill, Gilbert A, Jr;Ford, Neil M;Hartley, Steven W;Walker, Orville C, Jr, 1985, The determinants of salesperson performance: A meta-analysis, *Journal of Marketing Research*, 22(2), pp. 103-118
17. Cialdini, R, 1985, Persuasion Principles, *Public Relations Journal*, 41 (October), pp. 12–16
18. Clark, M., and Isen, A. M., 1982, *Toward Understanding the Relationship Between Feelings States and Social Behavior*, in Hestorf, A and Isen, A, (eds.) *Cognitive Social Psychology*., Elsevier, New York.
19. Cooley, C. H., 1964, *Human nature and the social order*, Schocken Books, New York.

20. Davis, Mark M. and Heineke, Janelle, 1998, How Disconfirmation, Perception and Actual Waiting Times Impact Customer Satisfaction, *International Journal of Service Industry Management*, 9(1), pp. 64-73
21. Davis M. M. and Maggard M. J., 1990, A framework for relating waiting time and customer satisfaction in a service operation, *Journal of Service Management,* 4(1), pp. 61-71
22. Davis, Mark M and Vollmann, Thomas E, 1990, A framework for relating waiting time and customer satisfaction in a service operation, *Journal of Service Management,* 4(1), pp. 61-70
23. Dellaert, B and Kahn, B, 1999, How tolerable is delay: consumers' evaluations of internet websites after waiting, *Journal of Interactive Marketing,* 13(1), pp. 41-54
24. Diaz, A.B.C. and Ruiz, F. J. M., 2002, The consumer reactions to delay in services, *Journal of Service Management,* 13(2), pp. 118-140
25. Dube, L, Schmitt, B. H. and Leclerc, F., 1991, Consumers' affective response to delays at different phases of service delivery, *Journal of Applied Social Psychology,* 21(10), pp. 810-820
26. Dubé-Rioux, Laurette; Schmitt, Bernd H.; Leclerc, France, 1989, Consumers' Reactions to Waiting: When Delays Affect the Perception of Service Quality, *Advances of Consumer Research*, 16, pp. 59-63
27. Duhachek, A, 2005, Coping: A Multidimensional, Hierarchical Framework of Responses to Stressful Consumption Episodes, *Journal of Consumer Research*, 32 (June), pp. 41-53
28. Durrande-Moreau, A, 1999, Waiting for service: Ten years of empirical research, Journal of Service Management, 10(2), pp. 171-194
29. Durrande-Moreau, A and Usunier, J, 1999, Time styles and the waiting experience: an exploratory study, *Journal of Service Research,* 2(2), pp. 173-186

30. Field, A. P., 2005, Is the meta-analysis of correlation coefficients accurate when population correlations vary? *Psychological Methods*, 10(4), pp. 444–467
31. Forgas, J. P., Bower, G. H. and Moylan, S. J., 1990, Praise or Blame? Affective Influences on Attribution for Achievement. *Journal of Personality and Social Psychology*, 59 (October), pp. 809-819
32. Garcia, D, Archer, T, Moradi, S and Ghiabi, B, 2012, Waiting in vain: Managing time and Customer Satisfaction at Call Centre, *Psychology*, 3(2), pp. 213-216
33. Giebelhausen, M. D., Robinson, S. G. and Cronin, J. J., 2011, Worth waiting for: increasing the satisfaction by making consumers wait, *Journal of the advancement of marketing science*, 39(9), pp. 889-905
34. Grewal, D, Baker, J, Levy, M and Voss, G. B., 2003, The effects of wait expectations and store atmosphere evaluations on patronage intentions in service-intensive retail stores, *Journal of retailing*, 79(2), pp. 259-268
35. Groth, M and Gilliland, S. W., 2006, Having to wait for service: Customer Reactions to delay in service delivery, *Applied Psychology: An international review*, 55(1), pp. 107-129
36. Hedges, L. V. and Vevea, J. L., 1998, Fixed- and random-effects models in meta-analysis, *Psychological Methods*, 3(4), pp. 486–504
37. Hui, M. K. and Dule, L, 1997, The impact of music on consumers' reactions to waiting for services, *Journal of Retailing*, 73(1), pp. 48-58
38. Hui, M K.; Thakor, M V.and Gill, R., 1998, The Effect of Delay Type and Service Stage on Consumers' Reactions to Waiting, *Journal of Consumer Research*, 24(4), pp. 469-479
39. Hui, M. K. and Tse, D. K., 1995, What to tell consumers in waits of different lengths: An integrative model of service evaluation, *Journal of Marketing*, 60(2), pp. 81-90

40. Hui, M. K. and Zhou, L, 1996, How Does Waiting Duration Information Influence Customers' Reactions to Waiting for Services?, *Journal of Applied Social Psychology*, 26(19), pp. 1702-1717
41. Hunter, J. E. and Schmidt, F. L., 2000, Fixed effects vs. random effects meta-analysis models: Implications for cumulative research knowledge, *International Journal of Selection and Assessment*, 8(4), pp. 275–292
42. Hunter, J. E., Schmidt, F. L. and Le, H., 2006, Implications of direct and indirect range restriction for meta-analysis methods and findings, *Journal of Applied Psychology*, 91(3), pp. 594–612
43. Huston, M. B. , Bettencourt, L. A. and Wenger, S., 1998, The relationship between waiting in a service queue and evaluations of service quality: A field theory perspective, *Psychology and Marketing*, 15(8), pp. 735-753
44. Jenknis, C. D., Zyzanski, S. J. and Rosenman, R. H., 1979, *Jenkins Activity Survey*. The Psychological Corporation, 31p
45. Kassarijan, H. H., 1973, *Field Theory in Consumer Behavior*, in Ward, S and Roberston, T. S. (ed), *Consumer Behavior: Theoretical Sources*, Prentice Hall, Englewood Cliffs, NJ.
46. Katz, K. L., Larson, M. L. and Larson, L. C., 1991, Prescription for the waiting-in-line blues: Entertain, Enlighten and Engage, *MIT Sloan Management Review*, 32(2), pp. 44-53
47. Kumar, Piyush; Kalwani, Manohar U.; Dada, Maqbool, 1997, The impact of waiting time guarantees on customer's waiting experiences, *Marketing Science*, 16(4), pp. 295-314
48. Larson, M. C, 1987, Perspective of Queues: Social Justice and the Psychology of Queueing, *Operations Research*, 35(6), pp. 895-905

49. Leclerc, F, Schmitt, B. H. and Dube, L., 1995, Waiting time and decision making: Is time like money?, *Journal of Consumer Research,* 22(1), pp. 110-119
50. Lewin, K, 1943, Defining the field at a given time, *Psychological Review,* 50, pp. 292-310
51. Lewin. K, 1951, Field Theory in Social Science, Harper and Row, New York.
52. Macar, F, 1980, *Le Temps: Perspectives*, PsychoPhysiologiqueS, Editions Peirre Mardaga, Bruxelles.
53. Marquis, Marie, 1998, Self-Consciousness Disposition Sheds Light on Consumers' Reactions to Waiting, *Advances in Consumer Research,* 25, pp. 544-550
54. Marquis, Marie; Dube, Laurette, 1994, Consumers' Response to Waiting Time: New Segmentation Bases Are Required for Service Industries, *Advances in Consumer Research,* 21, pp. 548-553
55. McDougall, Gordon H.G. and Levesque, Terrence J, 1999, Waiting for service: the effectiveness of recovery strategies, *International Journal of Contemporary Hospitality Management,* 11(1), pp. 6-15
56. Miller, E. G., Kahn, B. E and Luce, M. F., 2008, Consumer wait management strategies for negative service events: A coping approach, *Journal of Consumer Research,* 34(6), pp. 635-648
57. Mischel, Walter; Grusec, Joan; Masters, John C., 1969, Effects of Expected Delay Time on the Subjective Value of Rewards and Punishment, *Journal of Personality and Social Psychology,* 11(4), pp. 363-373
58. Nowlis, S. M., Mandel, N. and Mccabe, D. M., 2004, The effect of delay between choice and consumption on Consumption Enjoyment, *Journal of Consumer Research,* 31(5), pp. 502-512

59. Osuna, E. E., 1985, The psychological cost of waiting, *Journal of Mathematical Psychology*, 29(1), pp. 82-105

60. Parasuraman, A, Zeithaml, V A and Berry, L L, 1994, Reassessment of expectations as a comparison standard on measuring service quality: implications for further research, *Journal of Marketing*, 58(1), pp. 111-124

61. Pruyn, A and Smidts, A, 1998, Effects of waiting on the satisfaction with the service: Beyond objective time measures, *International Journal of Research in Marketing*, 15(3), pp. 321-334

62. Pruyn, A and Smidts, A, 1999, Customers' reactions to waiting: Effects of the presence of 'Fellow Sufferers' in the waiting room, *Advances of Consumer Research*, 26, pp. 211-216

63. Rafaeli, A; Barron, G and Haber, K, 2002, The effects of queue structures on attitudes, *Journal of Service Research*, 5(2), pp. 125-139

64. Roslow, Sydney; Nicholls, J A F; Tsalikis, John, 1992, Time and Quality: Twin Keys to Customer Service Satisfaction, *Journal of Applied Business Research*, 8(2), pp. 80-90

65. Schmitt, Bernd H.; Dubé, Laurette; Leclerc, France, 1992, Intrusions into waiting lines: does the queue constitute a social system, *Journal of Personality and Social Psychology*, 63(5), pp. 806-815

66. Schwarz, N.F. and Clore, G. L., 1983, Mood, Misattribution, and Judgments of well-Being: Information and Directive Functions of Affective States, *Journal of Personality and Social Psychology*, 45(5), pp. 513-523.

67. Taylor, S, 1994, Waiting for service: The relationship between delays and evaluations of service, *Journal of Marketing*, 58(2), pp. 56-69

68. Taylor, S, 1995, The Effects of Filled Waiting Time and Service Provider Control over the Delay of Evaluations of Service, *Journal of the Academy of Marketing Science,* 23(1), pp. 38-48
69. Taylor, S and Baker, T. L., 1994, An assessment of the relationship between service quality and customer satisfaction in the formation of consumers' purchase intentions, *Journal of Retailing*, 70(2), pp. 163-178
70. Taylor, S. and Claxton, J. D., 1994, Delays and the dynamics of service evaluations, *Journal of* the Academy of Marketing Science, 22(3), pp. 254-264
71. Tom G and Lucey S, 1995, Waiting time delays and costomer satisfaction in supermarkets, *Journal of Service Management,* 9(5), pp. 20-29
72. Usunier, J and Valette-Florence, P, 1991, *Construction d'une Echelle de Perception du Temps: Résultats Préliminaires*, in Chebat, J. C. and Venkatesan, V. (eds), *Time and Consumer Behavior*, Proceedings of the VIIth John-Labatt Marketing Research Seminar,. Montréal, Canada: U.Q.A.M., pp. 259-80
73. van Riel, Allard C.R., Semeijn, J, Ribbink, D and Bomert-Peters, Y, 2012, Waiting for service at the checkout: Negative emotional responses, store image and overall satisfaction, *Journal of Service Management*, 23(2), pp. 144 – 169
74. Weiner, B, 1979, An attributional theory of achievement motivation and emotion, *Psychological Review,* 92(October), pp. 548-573
75. Zajonc, R. B., 1965, Social Facilitation, *Science*, 149(2), pp. 269-274
76. Zhou, R and Soman, D, 2003, Looking Back: Exploring the Psychology of Queuing and the Effect of the Number of People Behind, *Journal of Consumer Research,* 29(4), pp. 517-530

77. Zhou, R and Soman, D, 2008, Consumers Waiting in Queues: The Role of First-order and Second-order Justice, *Psychology and Marketing*, 25(3), pp. 262-279