Do customers' time and effort on services affect their repurchase behaviour?

An empirical study in a Call Center setting

By

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BIOGRAPHICAL NOTE

Marisa Fernandes graduated in Modern Languages and Literatures - French and English Studies at the Faculty of Letters of the University of Porto. But she soon started to work in the Customer Service of a Portuguese telecommunications company, where she is for the last nine years, developing a professional background on Management and Marketing issues. Her current position deals with the supervision of a Complaints Management and Service Recovery team.

Along with this function, she has been training people in other companies (IEFP, IESF, Espaço Atlântico, Zona Verde and Atlas).

Her professional interests concern Services Management, Marketing and Quality Management subjects.

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ABSTRACT

The purpose of this study was to test the relationship between service convenience (customers' time and effort expenditures on services) and customer repurchase behaviour, in a Call Center setting. A database of 133 783 customers and 376 057 contacts were analysed in what concerns four Call Center performance indicators, representative of customers' time and effort: First Call Resolution (FCR), Average Handling Time, Insistence Calls and Repeated Calls.

First Call Resolution and Average Handling Time were proved to be statistical related to repurchase, but Insistence and Repeated Calls were removed since no significant relationship was found. Customers at early stages of their relationship with the service, low value customers and those participating on loyalty programs, were the most sensitive to time and effort expenditures on services. Gender and age do not seem to differentiate customers on convenience orientation.

Further research may study the importance of service convenience in other types of services and seek to understand who convenience-oriented customers are.

Understanding the impact of customers' time and effort on repurchase and knowing who are the customers less likely to wait and expend efforts, managers must seek to improve Call Centers performance and to select who are the customers to be answered first.

This study is among few empirical studies on service convenience, which assess real customers' behaviour instead of behavioral intentions or perceptions. It also demonstrates which contractual characteristics strengthen the relationship between service convenience and repurchase.

Keywords: Convenience; Time; Effort; Call Centers; First Call Resolution; Average Handling Time; Repurchase behaviour.

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INTRODUCTION AND RELEVANCE OF THE STUDY

The present work focuses on the study of service convenience in a Call Center setting. Service convenience deals with customers' time and effort expenditures to purchase or use a service and as convenience increases in a service, time and effort required to customers would decrease.

The huge development of information and communication technologies brought not only ease and speed of access to information and communication, but also new demands from consumers. Marketing gained new challenges. Products and services must be delivered easily and quickly, so that the consumer spends minimal time and effort to obtain them. Services create value through performance (Berry *et al.*, 2002) and convenience in services will add value to consumers by reducing the time and effort they spend (Seiders *et al.*, 2005). This is crucial since time and effort are resources people spend to become consumers (Berry *et al.*, 2002). Thus, convenience may represent a distinctive competitive strategy and several studies have reported positive relations between perceived service convenience and consumer satisfaction (Cowell *et al.*, 2008; Thuy *et al.*, 2011; Chang *et al.*, 2010; Chang *et al.*, 2012).

Call Centers are fundamental to CRM strategies since they are responsible for 70% of the contacts between the company and the customer (Cheong *et al.*, 2008) and customer overall satisfaction with Call Centers services seems to determine the customer satisfaction with the service itself (Cheong *et al.*, 2008). Therefore, it is decisive to ensure customers satisfaction with Call Centers and to identify which performance indicators weigh on it.

APCC (2011, Portuguese Association of Contact Centers) study shows that Call Centers are concerned about minimizing the time and effort spent by the customers: 56% of the Call Centers inquired are available 24 hours a day, 7 days a week, in order to offer a convenient service to customers; 50% of the respondents answer the call in 16 to 30 seconds; The average call duration, in 82% of the companies, is between 2 to 5 minutes; and 68% stated they resolve over 85% of the requests in the first contact. These indicators show Call Centers are concerned about offering a convenient, fast and effortless service to customers. It is expected, therefore, that understanding how Call Centers increase customer convenience, i.e., reduce time and effort, will increase

customer satisfaction (Cowell *et al.*, 2008; Thuy *et al.*, 2011) and their loyalty (Chang *et al.*, 2010).

This research project aims to: (i) relate the concept of service convenience with Call Centers operations; (ii) determine how Call Centers performance may impact on the service repurchase; (iii) explore the factors which can influence the relation between Call Centers performance and service repurchase.

LITERATURE REVIEW

1. CONVENIENCE

Convenience concept appeared in the literature, for the first time, in Copeland's goods categories, i.e., "those customarily purchased at easily accessible stores" (Copeland, 1923, p. 282), requiring minimal time and physical or mental effort to acquire (Copeland, 1923). Their unit price does not justify the searching costs in terms of time, money and effort (Copeland, 1923; Holton, 1958). Marketing has noticed a permanent rise in consumer preference for convenience and attribute this to the socioeconomic changes of the second half of the twentieth century (Berry, 1979; Brown, 1989; Brown, 1990; Seiders *et al.*, 2000; Berry *et al.*, 2002; Seiders *et al.*, 2005; McEnally and Brown, 1998; Brown, 1989), which resulted in changes in consumption patterns and in valorisation of time (Anderson, 1971; Anderson, 1972; Berry, 1979). Consumers' priorities changed (Anderson, 1972) and their available time is perceived as insufficient. Demanding timesaving solutions (Berry, 1979), consumers opened the doors to a convenience-oriented market, which must fulfil immediate needs or wishes, thus releasing time and effort for other tasks (Anderson, 1971). Consumers effort and time expenditures are acknowledged to be non-monetary costs that influence perceived convenience (Seiders *et al.*, 2000).

Generally, convenience orientation deals with people preference for convenience goods and services (Anderson, 1972; Yale and Venkatesh, 1986; Berry *et al.*, 2002). Convenience-oriented consumer is the one who seeks to "accomplish a task in the shortest time with the least expenditure of human energy" (Morganoski, 1986, p. 37).

Since individual consumer characteristics may affect the perceived importance of convenience (Farquhar and Rowley, 2009; Berry *et al.*, 2002), several studies have attempted to establish the socioeconomic and demographic factors, such as age, household income, level of education, socioeconomic status, the presence or absence of children, employed or unemployed wives and role overload, which determine the consumers demand for convenient goods and services (Anderson, 1971; Anderson, 1972; Strober and Weinberg, 1977; Strober and Weinberg, 1980; Reilly, 1982; McEnally and Brown,1998; Morganosky, 1986; Brown *et al.*, 1993). Segmenting convenience-oriented consumers, marketing could assign them convenience solutions (Yale and Venkatesh, 1986). Nevertheless, Aagja *et al.* (2011) show that clusters cannot

be profiled based on the demographic factors of respondents and other research studies presents inconclusive results (Berry *et al.*, 2002; Brown and McEnally, 1993). Reilly (1982) argues that the weak theoretical development of the convenience concept justify the poor conclusions of these studies. Researchers do not provide a definition of convenience (Brown and McEnally, 1993; McEnally and Brown, 1998), having assumed that consumers had a common understanding of this concept (Brown and McEnally, 1993).

2. CONVENIENCE MULTIDIMENSIONAL CONSTRUCT

Convenience was treated as a multidimensional construct by different authors (Yale and Venkatesh, 1986; Brown, 1989; Brown and McEnally, 1993; Gehrt and Yale, 1993; Seiders *et al.*, 2000; Berry *et al.*, (2002). Brown (1989), Brown and McEnally (1993); Seiders *et al.* (2000) and Berry *et al.* (2002) defined dimensions of convenience according to the stages in the consumption or use process (Farquhar and Rowley, 2009): search of alternatives, access, acquisition, use and post-purchase, which is consistent with services literature, dealing with the service delivery process (Berry *et al.* 2002), (see table 1).

	Time and effort				
Stages on the consumption	**Search of alternatives**	**Access**	**Acquisition**	**Use**	**Post purchase**
Brown (1989)	-	Place dimension	Acquisition dimension	Use Dimension Execution dimension	-
Brown and McEnally (1993)	-	-	Time and energy in the Acquisition	Time and energy in the Consumption	Time and energy in the Disposal
Seiders *et al.* (2000)	Search	Acess	Possession Transaction	-	-
Berry *et al.* (2002)	Decision convenience	Access convenience	Transaction convenience	Benefits convenience	Post-benefit convenience

Table 1: Convenience dimensions by the stages of the consumption process. **Source:** authors**.**

Time and effort (or energy) expenditures are the two elements of convenience most cited in the literature (Berry *et al.*, 2002) and both are present in the convenience definition of the four studies. All of them show the convenience concept standing for

the consumers' time and effort expenditures in the consumption or use process and product or service convenience will increase as time and energy expenditures decrease. The stages considered by these authors are the great distinction among the studies.

Convenience in the **search of alternatives** or decision convenience refers to the perceived time and effort spent by consumers while choosing which product or service to buy. A convenient service would have sufficient information available to ease the consumer decision (Berry *et al.,* 2002). It is analysed in Seiders *et al.*, (2000) and Berry *et al.,* (2002) studies.

Access convenience involves time and effort needed to reach a product or service. It may refer to the location proximity, hours of operation (Berry *et al.*, 2002) or waiting queues on the phone. With the exception of Brown and McEnally (1993) all the studies in table 1 cited it.

Acquisition or **transaction convenience** deals with the perceived time and efforts spent to purchase and acquire the product or service. It may refer to payment issues, like queues to pay the bill in a restaurant, the acceptance of credit cards or the easiness to arrange an appointment. Convenience in the acquisition is analysed in all studies. Brown and McEnally (1993) started their model in the acquisition stage while Seiders *et al.,* (2000) finished theirs in this stage, maybe because this study reports on a retailing context, dealing only with shopping convenience, not with the use of the products.

Use convenience refers to consumers' time and effort expenditures in the use of a product or service, for instance, if they meet the consumer needs (Yale and Venkatesh, 1986) and if little effort is required to obtain its core benefits (Berry *et al.,* 2002). It deals with the service core performance. It is referred in all studies except Seiders *et al.* (2005).

Post purchase convenience refers to the perceived time and effort spent by consumers in post purchase interactions, implicating consumers' requests or complaints after sales, i.e., after the purchase. It may refer to the repair or exchange of a product, or to the reminders of a doctor's office to schedule routine visits (Berry *et al.*, 2002). Convenience in post purchase is only cited by Brown and McEnally (1993) and Berry *et al.* (2002).

Only Berry *et al.* (2002) analysed the complete process, from the search of alternatives until the post purchase phase. Research has shown positive relations between Berry *et al.*'s (2002) five service convenience dimensions and consumer satisfaction (Cowell *et al.*, 2008; Thuy *et al.*, 2011), perceived quality (Thuy *et al.*, 2011; Chang *et al.*, 2013), repurchase intentions (Seiders *et al.*, 2007; Aagja *et al.*, 2011; Chang *et al.*, 2012; Chang *et al.*, 2013) and service repurchase (Seiders *et al.*, 2005). Although these relations were proved positive, the five types of convenience can have different importance in the perceived service convenience. Table 2 shows the positive relation between Berry *et al.*'s (2002) five service convenience dimensions and other dependent variables.

		Service convenience				
Study	**Dependent variables**	**Decision convenience**	**Access convenience**	**Transaction convenience**	**Benefits convenience**	**Post benefits convenience**
Seiders *et al.* (2005)	Repurchase behavior	**Proved**				
Seiders *et al.* (2007)	Repurchase intentions	**Proved**	Not proved	**Proved**	**Proved**	**Proved**
	Repurchase visits	**Proved**	**Proved**	Not tested	Not tested	Not tested
	Repurchase spending	Not tested	Not tested	**Proved**	Not proved	Not proved
Cowell *et al.* (2008)	Satisfaction	**Proved**	Not proved	Not proved	**Proved**	**Proved**
Chang *et al.* (2010)	Loyalty	**Proved**				
THUY *et al.* (2011)	Satisfaction	Weak relationship	**Proved**	Weak relationship	**Proved**	**Proved**
Aagja *et al.* (2011)	Repurchase intentions	**Proved**	**Proved**	Weak relationship	**Proved**	Weak relationship
Chang *et al.* (2012)	Repurchase intentions	Not proved	Not proved	Not proved	**Proved**	**Proved**
Chang *et al.* (2013)	Repurchase intention	Weak relationship	Weak relationship	**Proved**	Not proved	Not proved

Table 2: Relationship between service convenience types and other dependant variables. **Source:** authors

According to Chang *et al.* (2013) consumers give different importance to the convenience dimensions, depending on the nature of the service involved. Cowell *et al.* (2008) proved that access and transaction convenience are not relevant to consumer satisfaction, in the context of mobile phone and Internet services. Thuy *et al.* (2011)

showed weak effects of decision and transaction convenience on consumers' satisfaction of the Vietnam domestic airlines. Chang *et al.* (2012) found that decision, access and transaction convenience do not have a positive relationship with consumer satisfaction. Aagja (2010) found decision, access and benefits convenience were the most significant in the Indian retail context. Positive relations between service convenience as a whole and repurchase intentions (Seiders *et al.*, 2005) and loyalty (Chang *et al.*, 2010) were also tested.

3. CALL CENTERS

3.1. CALL CENTERS AS INTERACTION CHANNELS

In recent years, the great development and the decreasing costs of telecommunications and information technologies (Feinberg *et al.*, 2000; Aksin *et al.*, 2007) and the importance of developing CRM strategies have up scaled the need of Call Centers by companies (Cheong *et al.*, 2008; Aksin *et al.*, 2007; Jaiswal, 2008). Call Centers may be the core of successful CRM strategies (Michell, 1998; Mattila and Mount, 2003), representing an opportunity for high-volume, low-cost service (Robinson and Morley, 2006; Abdullateef *et al.*, 2010), delivery via telephone-related technology, which has resulted in the enormous worldwide growth of Call Center numbers (Anton, 2000; Dean, 2007).

Important benefits both to companies and customers came with the increase of Call Centers. First, acting as an interaction channel and as an important source of customer-related information (Burgers *et al.*, 2000; Ruyter and Wetzels, 2000; Spencer-Mathews and Rao, 2003), which can be used to improve customer contact service (Spencer-Mathews and Rao, 2003), they play a crucial role in the development and improvement of long-term relationships with customers (Feinberg *et al.*, 2000; Aksin *et al.*, 2007; Abdullateef *et al.* 2010; van Dun *et al.*, 2011), in the customer loyalty and overall satisfaction control (Cheong *et al,.* 2008). Second, companies can serve more customers, anytime, with fewer necessary staff (Bennington *et al.*, 2000), decreasing

companies' costs. Third, Call Centers allow customers to access the services more immediately (Betts *et al.,* 2000), through Call Centers' free numbers (Mattila and Mount, 2003) meeting their convenience demand and working as a competitive advantage when compared to firms only physically available during limited hours (Feinberg *et al.*, 2000). Fourth, Call Centers allow companies to listen to the voice of the customer, which has been defended in marketing theory and practice (Ruyter and Wetzels, 2000), contributing to transform Call Centers in customer-centric organizations (Jaiswal, 2008). They also represent an important channel for customer complaints and customer service recovery (Mount and Mattila, 2000; Mount and Mattila, 2002; Burgers *et al.*, 2000; Matilla and Mount, 2006), since after a service failure; customers expect a speedy and convenient resolution (Mattila and Mount, 2003). Thus, organizations need to manage customer contacts more effectively (Gilmore and Moreland, 2000). Riam (2005) defends that Call Monitoring, i.e., listening and studying customer phone calls, is an important tool to improve service quality, increase firms understanding of their customers, develop employees, and improve service encounters.

Customer satisfaction with a Call Center service is believed to determine the customer satisfaction with the company itself (Anton, 2000), since they represent the main customer-facing channel for many firms (Aksin *et al.*, 2007; Dean, 2004a; Marr and Neely, 2004). Accordingly to Anton *et al.* (2004) 92% of customers have their opinion about a firm formed by their experience with Call Centers. So, managing customers' experiences in Call Centers encounters is likely to have important implications for companies' success (Dean, 2007).

3.2. CALL CENTERS METRICS

The standard operations and metrics of Call Centers can be summarized as follows:

When a customer call arrives, it will be answered or it will be put on hold and asked to wait (average waiting time), but some customers will hang-up before being answered (average abandonment rate). Once answered, the call will have a duration (average talk time), during which the agent may need to put the customer on hold in order to answer or resolve the customer request/complaint (hold time). The customer issue may be

resolved on his/her first call and does not need further contacts to resolve the previous reason of calling (Abdullateef *et al.*, 2010) (First Call Resolution) or needed to be analysed by other teams and cannot be closed at that moment. The time it takes to be resolved is called average handling time. When the customer needs to call back again to ask for his/her answer/resolution, while the question is still under analyse, there is an insistence call. But if the customer request/complaint is already closed and the customer calls back for the same reason, there is a repeated call.

Traditional Call Centers have evolved into contact Centers which manage multiple customer communication channels, such as fax, e-mail and Web (Acey, 2002; Cheong *et al.*, 2008). Despite their exponential growth, little is known about customer satisfaction (Bennington *et al.*, 2000; Miciak and Desmanais, 2001; Kolar, 2006), customer expectations (Burgers *et al.*, 2000) or perceived customer quality (Jaiswal, 2008; Miciak and Desmanais, 2001; Kolar, 2006) with Call Centers performance, which Anton (1997) suggests combining in two types of indicators.

The first are qualitative, intangible metrics, which measure caller perceptions of the interaction with the Call Center agents (Gilmore and Moreland, 2000). Call Centers agents competencies, were proved to have impact on customers' satisfaction (de Ruyter and Wetzels, 2000; Mount and Matilla, 2002), on customers' affective commitment and loyalty (Dean, 2007), on customers' expectations (Dean, 2004b) and on repurchase intentions (Pontes and Kelly 2000). While dimensions of listening behaviour (de Ruyter and Wetzels, 2000; Mount and Mattila, 2002), such as attentiveness and perceptiveness (Mount and Mattila, 2002), and Call Centers agents' customer orientation (Dean, 2007), proved to have a positive impact on customers' satisfaction, lack of authority to make decisions, on the contrary, has a significant negative impact on customer satisfaction (Mount and Mattila, 2000). Adaptiveness, assurance, empathy, authority (Burgers *et al.*, 2000) and customer feedback and focus (Dean, 2004a) are customers' expectations about Call Centers agents behaviour. Dean (2004b) study distinguished individual and business customers' expectations regarding the interaction with Call Centers and found that individual customers gave preference to friendly, helpful staff and Call Centers agents' competencies, attitudes and knowledge, while business customers' emphasis was on rapid outcomes and efficient problem resolution.

The second are quantitative metrics, which focus mainly on operational indicators, such as waiting time, hold and average talk time, and are known as key performance indicators (KPIs). They are critical for the success of Call Centers (Jouini *et al.*, 2013) and performance evaluation is frequently done on their basis (Jaiswal, 2008). See Anton (1997), Feinberg *et al.* (2000) and Jaiswal (2008) for common Call Centers KPIs. There is no suggestion in the Call Center research literature of what performance indicators influence consumer satisfaction (Feinberg *et al.*, 2000), but Anton (1997) provided a list of indicators which measures the quality of the Call Center services. From these indicators, Feinberg *et al.* (2000) demonstrated that only percentage of calls closed on first contact and average abandonment rate were determinants of customers satisfaction. The percentage of calls blocked (calls that received the busy tone), average speed of answer (average time it takes for the call to be picked up), and service level (calls answered within a specified number of seconds) were the factors that determine customer satisfaction in Cheong *et al.* (2008) research. Operational Call Center indicators, however, proved to have little impact on customer satisfaction (Feinberg *et al.*, 2000; Feinberg *et al.*, 2002; van Dun *et al.*, 2011) and to be little related to customers' perception about service quality (Jaiswal, 2008). Other variables must determine customer satisfaction with Call Centers (Jaiswal, 2008; Dean, 2004b) and other research should seek to determine what will satisfy customers on the Call Centers setting (Robinson and Morley, 2006).

Many Call Center agents are, in fact, pressed between maintaining quality service standards and meeting productivity goals (Robinson and Morley, 2006; Gilmore and Moreland, 2001). Several authors have claimed that Call Center managers are focused on operational measures believing they determine customers satisfaction with the service (Marr and Neely, 2004; Miciak and Desmanais, 2001), and missing the real factors influencing customers satisfaction with Call Centers. Managers appear to focus in productivity, rather than customer demands (Staples, 2002) or ability to improve customer service (Robinson and Morley, 2006) and a production line (Staples, 2002; Robinson and Morley, 2006) or Tayloristic approach (Marr and Neely, 2004) seems to be utilized in Call Centers management, since operators are often required to answer a

great number of calls (Staples, 2002). Call Centers are cost/production-oriented and are not responding to a demanding customer-oriented approach (Kolar, 2006).

3.3. CALL CENTERS CONVENIENCE

Although several studies have stated that quantitative metrics of Call Centers do not represent customer service goals (Robinson and Morley, 2006) or customer satisfaction with the service (Feinberg *et al.*, 2000), they are representative of consumers' time and effort expenditures and literature has found clues of their impact on consumers' satisfaction with Call Centers services.

Kolar (2006) found that one of the criteria to achieve excellence in Call Centers quality, as it focuses on customers' expectations, is the customer sacrifice minimization, such as time, efforts and psychological costs. The most important benefit of telephone interactions is speed (which saves time) and the fact that they simplify customers' life (Kolar, 2006), reducing customers' effort, which is consistent with convenience literature. In fact, customers seem to be concerned with speedy services and are less likely to be tolerant with time based problems (Dean, 2004b). Bennington *et al.* (2000) defend that from the customer's perspective, the main Call Center benefits are convenience, flexibility and customization. Almost all Call Centers are active 24 hours a day, 365 days a year (Lau and Chan, 2012), meeting consumers convenience demand. Having reached parity in price and quality "the paradigm shift is definitely towards customer accessibility" (Anton, 2000, p.124). Consumers appreciate timely accessibility (Anton, 2000; van Dun *et al.*, 2011) and access to information at any time, from anywhere, in any form, and for free (Anton, 2000). Timeliness to resolve a customer issue is an important determinant of customer satisfaction with Call Centers (Matilla and Mount, 2006) and satisfaction will be lower when the delay is perceived as unnecessary than when such a delay is justified in the customer's mind (Matilla and Mount, 2006). Van Dun *et al.* (2011) found evidence of customer perceived contact Center quality in seven dimensions. Four of them concern qualitative issues (empathy, customer knowledge, customer focus, user friendliness of the voice response unit), but the other three (reliability, waiting cost and accessibility) meet quantitative metrics,

related to consumers' time and effort. The reliability of the Call Center depends on whether customers need to call more than once (First Call Resolution) to receive an accurate answer (van Dun *et al.* 2011). Waiting costs deal with the time customers must wait when they contact the Call Centers (Time in queue, Average talk time; Hold). Accessibility, consisting of hours of operation and easy to find the number customers need to dial (van Dun *et al.*, 2011).

In the context of Call Centers, service quality (Dean, 2002) and customer satisfaction (Lau and Chan, 2012) were proved to have impact on customer loyalty. Since consumers are less satisfied with Call Center services than they are with office-based in-person services (Bennington *et al.*, 2000), research need to analyze which Call Center factors directly affect consumers overall satisfaction and loyalty.

THE RESEARCH

4. RESEARCH OBJECTIVES

The exponential growth of Call Centers due to their importance as communication channels and their crucial role in CRM strategies (Cheong *et al.*, 2008) brought attention to their performance. Call Centers are now concerned about offering a convenient, fast and effortless service to customers, in order to ensure their satisfaction.
Literature has shown that in the Call Centers context, service quality (Dean, 2002) and customer satisfaction (Lau and Chan, 2012) affects customer loyalty. Nevertheless, there is no consensus about which metrics impact on consumers overall satisfaction and not always research has found positive relations between all Call Center performance indicators and customer satisfaction (Feinberg *et al.*, 2000; van Dun *et al.*, 2011; Jaiswal, 2008), therefore, other research should seek to determine what will satisfy customers on the Call Centers setting (Robinson and Morley, 2006). In fact, there is a lack of studies, in the Call Centers setting, concerning the relationship between service convenience and customers' satisfaction or repurchase behaviour.
Convenience in services adds value to consumers by reducing the time and effort they spend (Seiders *et al.*, 2005). Research shows the consumers preoccupations about time and effort expenditures on their interactions with Call Centers, namely in what concerns accessibility (Anton, 2000), timeliness (Mattila and Mount, 2006), and Call Center agents' responsiveness on first contact (van Dun *et al.*, 2011).

We aimed to explore service convenience in a Call Center setting through four performance indicators, representative of customers' time and effort expenditures on their interactions with Call Centers: First Call Resolution, Average Handling Time, Insistence Calls and Repeated Calls (see literature review, section 3.2.), and their relation with repurchase behaviour.

The objectives of this study are as follows:

- To explore service convenience in the Call Centers setting.

- To focus on Call Centers indicators which represent consumers' time and effort expenditures, namely First Call Resolution, Average Handling Time, Repeated Calls and Insistence Calls.
- To analyze the relationship between service convenience, measured through First Call Resolution, Average Handling Time, Repeated Calls and Insistence Calls, and customers repurchase behaviour.
- To analyze the relationship between service convenience (measured through First Call Resolution, Average Handling Time, Repeated Calls and Insistence Calls), and customers repurchase behaviour, in different groups, according to:
    a) demographic factors (age and gender),
    b) customer-service relationship age,
    c) loyalty programs participation,
    d) customer value.

Figure 1 represents the research model.

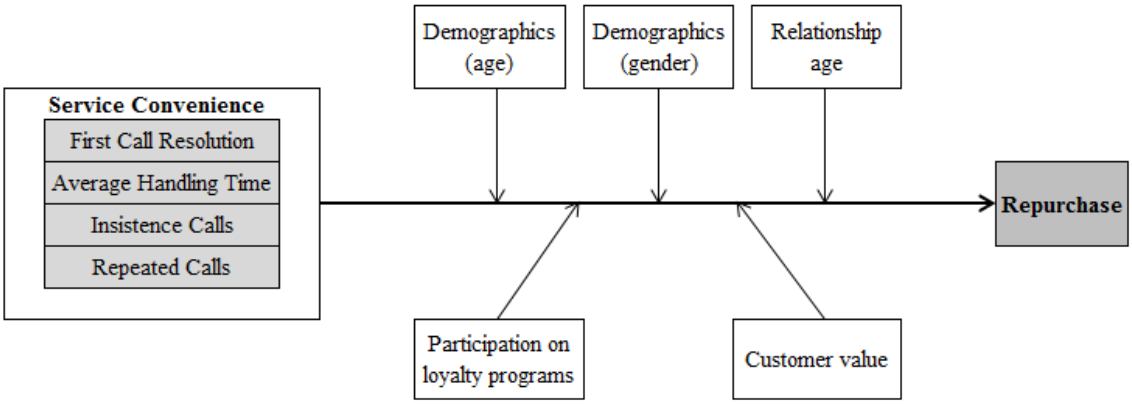

Figure 1: Conceptual model of service convenience and repurchase behaviour in a Call Center setting (the metrics of "First Call Resolution", "Average Handling Time", Insistence Calls" and "Repeated Calls" are presented below, see Table 3). **Source:** authors

A Call Center database was used for collecting the data. We expect the research will contribute to the identification of how Call Centers performance - in what concerns customers' time and effort expenditures - may impact on the service repurchase.

5. HYPOTHESIS DEVELOPMENT

The research model was established and the hypotheses were formulated. The hypotheses refer to the relationship between Call Center indicators and customers' repurchase behaviour. According to Seiders *et al.* (2005), repurchase may mean repeating visits to the service and/or increasing the amount spent on the service. This research will consider repurchase behaviour as the repeated use of service, i.e., if the customer keeps the service active, in opposition to deactivation, considering that we use a database of customers with contractual relations, involving the repeated use of the service, for more or less long periods. Literature has shown positive relations between perceived service convenience and consumer satisfaction (Cowell *et al.*, 2008; Thuy *et al.*, 2011; Chang *et al.*, 2010; Chang *et al.*, 2012), perceived quality (Thuy *et al.*, 2011; Chang *et al.*, 2013), repurchase intentions (Seiders *et al.*, 2007; Aagja *et al.*, 2012; Chang *et al.*, 2012; Chang *et al.* 2013) and service repurchase (Seiders *et al.*, 2005). Service convenience has also proved to have a positive moderating effect on the relationship between satisfaction and repurchase behaviour (Seiders *et al.*, 2005).

As stated before, in a Call Centers setting, consumers show preoccupations about time and effort expenditures on their interactions with this service, namely in what concerns accessibility (Anton, 2000), timeliness (Mattila and Mount, 2006), and Call Center agents' responsiveness on first contact (van Dun *et al.*, 2011). In fact, First Call Resolution (Feinberg *et al.*, 2000; van Dun *et al.*, 2000) and timeliness in response, i.e, Average Handling Time (Mattila and Mount, 2006) were proved to be determinants of customers' satisfaction. A SQM study reports that increasing 1% of FCR would increase 1% of customers satisfaction (SQM, 2007) and states that FCR is the most important Call Center metric for customers. Insistence and Repeated Calls result of the inability to resolve customers' issues at their first call. As these four metrics are representative of customers' time and effort to have their requests or complaints resolved, we expect they have impact on customers repurchase behaviour.
So, the first groups of hypotheses are formulated:

H1 a) There is a positive relationship between FCR and customers repurchase behaviour. This means that high FCR rates are expected to imply higher repurchase behaviour.

H1 b) There is a positive relationship between Handling Time and consumers repurchase behaviour. This means that low Average Handling time is expected to imply higher repurchase behaviour.

H1 c) There is a negative relationship between Insistence Calls and repurchase behaviour. This means that high percentages of Insistence Calls are expected to imply low repurchase behaviour.

H1 d) There is a negative relationship between Repeated Calls and consumers repurchase behaviour. This means that high percentages of Repeated Calls are expected to imply low repurchase behaviour.

Research showed demographic factors which explain the demand for convenience (Anderson, 1971; Anderson, 1972, McEnally and Brown, 1998; Morganosky, 1986). Demographic factor of age (McEnally and Brown, 1998) was proved to be determinant of convenience oriented customers. Morganosky (1986) stated that consumers below 30 years of age were more likely to convenience products (such as disposable diapers or prepared food). Anderson (1971) research showed that families between 25 to 40 years were more convenience-oriented than those under 24 or above 60 years. Chang *et al.* (2012) call for research analyzing demographic factors in the preference for convenience and Seiders *et al.* (2005, p.30) state that "customer characteristics explain variations in the satisfaction–repurchase", so we expect the same is true for convenience–repurchase behaviour. Therefore, the second group of hypotheses is formulated:

H2 a) The relationship between FCR and repurchase behaviour is higher on younger customers.

H2 b) The relationship between Average Handling Time and repurchase behaviour is higher on younger customers.

H2 c) The relationship between Insistence Calls and repurchase behaviour is higher on younger customers.

H2 d) The relationship between Repeated Calls and repurchase behaviour is higher on younger customers.

Literature lacks research in what concerns gender convenience orientation. Several studies analyzed housewives and mothers convenience orientation, since female increasing employment may lead to perceptions of increasing time pressure (Strober and Weinberg, 1977; Morganosky, 1986) and, therefore, to demand for convenient products and services. But males were excluded from these researches. McEnally and Brown (1998) included the variable of gender in their study about convenience oriented customers and yet found weak relations between gender and convenience orientation. We expect, then, to fulfil this shortage. As men employment rates are higher than women's, so time pressure and convenience orientation are expected to be. Therefore, the third group of hypotheses is formulated:

H3 a) The relationship between FCR and repurchase behaviour is higher on male customers.
H3 b) The relationship between Average Handling Time and repurchase behaviour is higher on male customers.
H3 c) The relationship between Insistence Calls and repurchase behaviour is higher on male customers.
H3 d) The relationship between Repeated Calls and repurchase behaviour is higher on male customers.

"Relational characteristics represent formal and informal bonds between the firm and its customers" (Seiders *et al.*, 2005, p.30). They can work as switching barriers, creating competitive advantages to the companies (Seiders *et al.*, 2005), since loyalty programs participants will be more willing to purchase in the companies with which they have ties (Seiders *et al.*, 2005). Relationship age and loyalty programs participation are both relational characteristics, which represent "customers' investments in building or formalizing relationships with a specific firm" (Seiders *et al.*, 2005, p.30). Both had a moderating role in the relationship between satisfaction and repurchase behaviour, in a context of contractual services (Seiders *et al.*, 2005). We will consider the two relational

characteristics separately since loyalty programs participation usually implies contractual relations, with penalties supported by the customer in case of abandonment, so an exit barrier, while relationship age seems to increase the customers willingness to expend time and effort in their relationship with the service (Chang *et al,*. 2012). We expect, therefore, that customers with shorter relationships with the service would be less willing to expend time and effort on services. As customers participating on loyalty programs have greater barriers to exit, we expect that those who don't will be more sensitive to time and effort expenditures on services. So, the fourth and fifth groups of hypotheses are formulated:

H4 a) The relationship between FCR, and repurchase behaviour is higher on customers with shorter relationship age with the service.
H4 b) The relationship between Average Handling Time and repurchase behaviour is higher on customers with shorter relationship age with the service.
H4 c) The relationship between Insistence Calls and repurchase behaviour is higher on customers with shorter relationship age with the service.
H4 d) The relationship between Repeated Calls and repurchase behaviour is higher on customers with shorter relationship age with the service.

H5 a) The positive relationship between FCR and repurchase behaviour is higher on customers not participating in loyalty programs.
H5 b) The relationship between Average Handling Time and repurchase behaviour is higher on customers not participating in loyalty programs.
H5 c) The relationship between Insistence Calls and repurchase behaviour is higher on customers not participating in loyalty programs.
H5 d) The relationship between Repeated Calls and repurchase behaviour is higher on customers not participating in loyalty programs.

Families with higher incomes were proved to be more convenience-oriented that those with lower average incomes (Anderson, 1971) and as income increases, so does convenience preference (McEnally and Brown, 1998). Armistead and Kiely (2003) state that richer customers were expected to pay more for what meets their convenience

needs, i.e., when richer customers are time poor they will be willingly to pay for convenience. Considering that healthier customers are those who spend more, so high value customers for the firm, and those who will be willing to pay for convenient services, we formulate the sixth group of hypotheses:

H6 a) The relationship between FCR and repurchase behaviour is higher on high value customers.
H6 b) The relationship between Average Handling Time and repurchase behaviour is higher on high value customers.
H6 c) The relationship between Insistence Calls and repurchase behaviour is higher on high value customers.
H6 d) The relationship between Repeated Calls and repurchase behaviour is higher on high value customers.

6. DATA COLLECTION

Chang *et al.* (2012) call for research on the repurchase behaviour rather than behavioural intentions, since it is hard to assess future customer behaviour and behavioural intentions do not always prove to be in accordance with the actual behaviour (Seiders *et al,*. 2005; Chang *et al.*, 2012). This research discusses customer behaviour through Call Center data analysis. We collected the data from a Portuguese Call Center database, in the telecommunications industry, to test our research model. The selection of a telecommunications setting was done by convenience of database accessibility and because telecommunications are one of the leading sectors using Call Centers to provide customer service. The telephony market where this Call Center operates is a highly competitive one, and providing good service to customers constitutes a competitive strategy (Aguir, 2004).

The objective of our study is to focus on customers who have contacted the telecommunications company's Call Center for a specific period of time (the first semester of 2012, i.e., between the 1st of January 2012 and the 30th of June 2012),

examine their calls and the Call Center performance handling them, in what concerns customers' time and effort expenditures to have their issues resolved, and the impact of this performance on service repurchase, using a longitudinal study. The performance of the Call Center dealing with these interactions was analyzed concerning four metrics: First Call Resolution, Handling time, Insistence calls, and Repeated calls. These four metrics were chosen because they are representative of customers' time and effort expenditures to have their questions resolved. Exploratory interviews to four Call Center managers asked them to list Call Center performance indicators which may represent consumers' time and effort expenditures. Other metrics in the customers' interactions with Call Centers also came up as representative of time and effort (*average time in queue, average abandonment rate, average time before abandoning, hold time, talk time*), but they were withdrawn from our research model because the database could not provide customers details before the call was answered. Repurchase behaviour will be measured three months after the contacts occurred: at the end of the third trimester of 2012. The database has a sample of 133 783 customers who all together did 376 057 contacts to the Call Center (an average of 2.8 calls per customer), during the first semester of 2012. The control variable of age will use a shorter database, of 17 857 customers, because the company lacks this information for a great part of its customers. Table 3 shows the available data for each customer in our database, their definition and calculation.

Data	Definition	Calculation
Account ID	Identifies the customer with an identification number.	Identification number
Demographics	Shows customers' gender	Male or female
Demographics	Shows customers' age	Number of years
Relationship age with the service	Shows the number of months the customer is using the service.	Number of months
Participation on loyalty programs	Shows if the customer has added to a loyalty program.	Yes or No
Customer value	It will be measured through the average amount spent by the customer, during the first semester of 2012.	Total amount spent, in euros, in the first semester of 2012 divided by the number of months the customer had the service active, during the first semester of 2012.
Number of customer calls	Shows the total number of customers' calls, either information requests or complaints, during the first semester of 2012.	Number
Percentage of First Call resolution	Percentage of the calls that are resolved during that call and do not require either the customer to call back or an agent to make an outgoing call to the caller with additional information.	Number of calls closed on first contact divided by the total number of customer calls
Average Handling Time	Average duration of one transaction, expressed in hours, measured from the customer's initiation of the call and including any hold time, talk time and related tasks or operations that follow the transaction, until the customer issue is closed.	Total handling time of customer calls divided by the total number of customer calls
Percentage of Insistence Calls	Percentage of times a customer needed to call before his/her issue was resolved. The call occurs while the customer request is still beyond analysis.	Number of insistence calls divided by the total number of customer calls
Percentage of Repeated Calls	Percentage of times a customer needed to call again for the same question/request. It may happen because the issue was poorly resolved on the first time. The call occurs after the customer request is said to be resolved.	Number of repeated calls divided by the total number of customer calls
Status of the contract at the end of the 3rd trimester of 2012	Shows if the customer contract is still active or deactive	Active or deactive

Table 3: Definition and calculation of database items. **Source:** authors

7. DATA ANALYSIS

Database analysis was performed as follows. A Chi Square test was performed to assess if there is a relationship between our variables and how this relationship varies across classes of customers.

Chi-Square is sensitive to sample size, which means that having a higher Chi-Square value (X^2) does not represent a more significant association between variables, because the sample size is taken in account (Pestana e Gageiro, 2003). A $\alpha < .05$ was adopted for all the statistical tests, so a p-value less than .05 will reject the null hypothesis (*H0: The variables are independent)* and confirm a relationship between variables (*H1: The variables are dependent).* Whenever we had a statistically significant p-value (<.05), we also performed the Phi or Cramer's V coefficient, which is analyzes the relative strength and direction of a statistically significant relationship between variables (Hinkle *et al.*, 2003). Phi is not affected by sample size and therefore is useful in situations where we have statistical significant Chi-Square between two variables but we suspect it was the result of large sample size instead of any substantive relationship between the variables. In fact, Chi-square test just says whether the variables are dependent, does not states the degree of association (Pestana e Gageiro, 2003). The Phi and the Cramers V ranges in value from -1 to+1. Values close to 0 indicate a very weak relationship, and values close to +1 indicate a very strong relationship. If the row and column variables are qualitative (i.e., categorical or nominal), the sign of phi is not meaningful and any negative Phi values can be changed to positive values without affecting their meaning (Hinkle *et al.*, 2003). According to Hinkle *et al.*, (2003) a Phi value of .10, .30, and .50 represent small, medium, and large effect sizes, respectively. However, what is a small versus a large Phi should be dependent on the area of investigation. Phi is only used on 2x2 contingency tables, if the table has more than two levels Cramer's V coefficient rescales Phi coefficient.

In order to measure the impact of the predictive indicators on repurchase behaviour, customers were divided into classes, see table 4 for independent variables classes, table 5 for dependant variable classes and table 6 for control variables classes. Table 7 shows the frequency of each class, in number of customers and percentages.

Independant variables	Class	Description
FCR (First Call Resolution)	FCR Yes	Customers who had 100% of their contacts with FCR, meaning they always had their requests/complaints resolved at their first contact.
	FCR NO	Customers who had less than 100% of FCR, meaning they did not have their resolution at first contact, at least once.
Average Handling Time	1hour	Customers whose requests/complaints average handling time was up to an hour.
	1-24h	Customers whose requests/complaints average handling time was between 1 to 24 hours.
	>24h	Customers whose requests/complaints average handling time was more than 24 hours.
Insistence Calls	Insistence Calls Yes	Customers who had to call again for the same request/complaint at least once.
	Insistence Calls No	Customers who never had to call back for the same request/complaint.
Repeated Calls	Repeated Calls Yes	Customers who had to repeat the call at least once.
	Repeated Calls No	Customers who never had to repeat the call.

Table 4: Classes of the independent variables. **Source:** authors

Dependant variable	Class	Description
Repurchase	Repurchase Yes	Customers who had the service active at the end of third trimester of 2012.
	Repurchase No	Customers who did not have the service active at the end of third trimester of 2012.

Table 5: Classes of the dependent variables. **Source:** authors

Control variables	Class	Description
Age	Young	0-45 years
	Middle age	46-65 years
	Senior	>65 years
Gender	Female	Female customers
	Male	Male customers
Relationship age	Beginner	Customers who are using the service up to 24 months.
	Advanced	Customers who are using the service for more than 24 months.
Participation in Loyalty Programs	Loyalty Programs Yes	Customers who belong to a loyalty program.
	Loyalty Programs No	Customers who do not belong to a loyalty program.
Customer value[1]	Low value	Customers who spend, in average, the minimum amount of the rate plan.
	Medium value	Customers who spend, in average, between the minimum and twice the amount of the rate plan.
	Senior value	Customers who spend, in average, more than twice the amount of the rate plan.

Table 6: Classes of the control variables. **Source:** authors

[1] Customer value classes were defined according to the service rate plans. The amount of 12,50EUR was considered as the minimum amount of the rate plan to define customer value classes.

FCR	Number of customers	Percentage
No	77326	57,80%
Yes	56457	42%
Total	**133783**	**100%**

Insistence Calls	Number of customers	Percentage
No	126172	94,30%
Yes	7611	5,70%
Total	**133783**	**100%**

Average Handling Time	Number of customers	Percentage
1H	10262	7,60%
1H-24H	113764	85,03%
>24H	9757	7,20%
Total	**133783**	**100%**

Repeat Calls	Number of customers	Percentage
No	62721	46,90%
Yes	71062	53,10%
Total	**133783**	**100%**

Gender	Number of customers	Percentage
Female	70823	52,90%
Male	62960	47,10%
Total	**133783**	**100%**

Relationship age	Number of customers	Percentage
Advanced	88947	66,50%
Beginner	44836	33,50%
Total	**133783**	**100%**

Customers age	Number of customers	Percentage
Middle age	6879	38,50%
Senior	8494	47,60%
Young	2484	13,90%
Total	**17857**	**100%**

Customers value	Number of customers	Percentage
High Value	21760	16,27%
Low value	44408	33,19%
Medium value	67615	50,54%
Total	**133783**	**100%**

Participation in loyalty programs	Number of customers	Percentage
No	75182	56,10%
Yes	58601	43,80%
Total	**133783**	**100%**

Repurchase	Number of customers	Percentage
No	33905	25,34%
Yes	99878	74,66%
Total	**133783**	**100%**

Table 7: Customers frequency distributed by classes. **Source:** authors

8. RESULTS

Table 8 shows the Chi Square test outputs: X^2, p-value and Phi's and Cramer's V coefficients, for the associations between FCR, Average Handling Time, Insistence Calls and Repeat Calls and Repurchase. Analyzing the p-value, which is <.05, we confirm all the associations. Nevertheless, when we look at Phi's or V's coefficients we realize the associations are weak. Note that we used V's coefficient on the association

between Average Handling Time and repurchase, because it is not a 2x2 contigency table, as Average Handling Time has 3 classes. FCR and Handling time are the variables with a stronger relationship with repurchase.

	Repurchase			
	Chi Square	p-value	Phi	Cramer's V
FCR	X^2=1022,079	p=.000	.087	
Handling Time	X^2=2349,599	p=.000		.133
Insistence Calls	X^2=10,449	p=.001	-.009	
Repeat Calls	X^2=490,606	P=.000	-.061	

Table 8: Chi Square test outputs of FCR and Repurchase. **Source:** authors

Despite the weak Phi's and V's values, they are representative to our study.
The relationship between FCR and Repurchase got a Phi's =.087, statistically supporting the hypothesis: *H1 a) First Call Resolution has a positive relationship with consumers repurchase behaviour*. Though it is a small association, if we analyze table 9, we realize that Repurchase increased from to 71.4% to 79.1%, when we distinguished from FCR No to FCR Yes.

Average Handling Time got the highest V's value (.133), statistically supporting the hypothesis: *H1 b) Handling Time has a positive relationship with consumers repurchase behaviour.* As handling time reduced from more than 1 day to less 1 hour, repurchase increased *20,9%*. Note that Repurchase increased along with the reduction of Average Handling Time (>24H = 55,9%, 1-24H=66,7% and <1H=76,8%), what reinforces the statistical result.
Insistence Calls X^2 value (X^2 =10,449) was significantly lower than with the other variables and Phi value = -.009 was almost null. We rejected *H2 c) There is a negative relationship between Insistence Calls, and repurchase behaviour*, and withdraw Insistences Calls from our research model.

Since Phi's values show a very weak relationship (= -.061) in the association between Repurchase and Repeated Calls, we also rejected the hypothesis *H1 d) There is a negative relationship between Repeated Calls and consumers repurchase behaviour.*

FIRSTCALLRESOL * REPURCHASE				
		REPURCHASE		Total
		NO	YES	
FCR	NO	28,60%	71,40%	100%
	YES	20,90%	79,10%	100%
Total		25,30%	74,70%	100%

INSISTENCECALLS * REPURCHASE				
		REPURCHASE		Total
		NO	YES	
Insistence Calls	NO	25,2%	74,8%	100%
	YES	26,9%	73,1%	100%
Total		25,3%	74,7%	100%

HANDLING TIME * REPURCHASE				
		REPURCHASE		Total
		NO	YES	
Handling Time	1H	23,20%	76,80%	100%
	1H-24H	33,30%	66,70%	100%
	>24H	44,10%	55,90%	100%
Total		25,30%	74,70%	100%

REPEATCALLS * REPURCHASE				
		REPURCHASE		Total
		NO	YES	
Repeat Calls	NO	22,50%	77,50%	100%
	YES	27,80%	72,20%	100%
Total		25,30%	74,70%	100%

Table 9: Percentages of repurchase distributed by FCR, Handling time, Insistence and Repeat Calls. **Source:** authors

The following Chi Square tests were performed adding a third variable. We are still examining the relationship between the independent variables and the dependent variable, but now using a variable of control. The complete outputs of the performed Chi-Square tests can be seen on the appendix 1 to the appendix 14.

First Call Resolution * Repurchase

Table 10 shows the results of Chi Square, p-value and Phi or Cramer's V, on the association between our four independent variables and Repurchase, using gender, customer's age, relationship age with the service, participation on loyalty programs and customers' value as control variables. Again, P-values <.05 confirmed the association between variables in all cases.

The strength of the association between FCR and Repurchase decreases with age (young V=.055, middle age V=.46 and senior V=.044), confirming the hypothesis: *H2 a) The relationship between First Call Resolution and repurchase behaviour is higher on younger customers.* However the difference is too little to be significant. Remember that X^2 values are lower in what concerns age since the sample is quite lower too (only 17 857 customers versus 133 783 in the other control variables). The relationship between FCR and Repurchase was almost the same between genders, though a little higher on males (V=.088) than on females (V=0.86). Nevertheless, the difference (.002)

is too little, rejecting our hypothesis *H3 a) The relationship between First Call Resolution and repurchase behaviour is higher on male customers.*

In what concerns relationship age with the service, beginner customers (V=.091) are more sensitive to FCR than advanced customers (V=.069). Our hypothesis *H4 a) The relationship between First Call Resolution and repurchase behaviour is higher on customers with shorter relationship age with the service,* is supported. Note (Appendix 8.1: Crosstabulation of FCR*Repurchase*Relationship age) that repurchase increases 9% on beginner customers, as we move from FCR No to FCR Yes and only 5,6%, on advanced customers.

			Repurchase		
			Chi Square	P-value	Phi and Cramer's V
Age	Young	**FCR**	X^2=7,592	.006	.055
	Middle age		X^2=14,252	.000	.046
	Senior		X^2=16,411	.000	.044
Gender	F		X^2=519,341	.000	.086
	M		X^2=488,980	.000	.088
Relationship age	Beginner		X^2=373,798	.000	.091
	Advanced		X^2=423,753	.000	.069
Loyalty programs	No		X^2=559,541	.000	.086
	Yes		X^2=503,186	.000	.093
Customer value	Low		X^2=789,159	.000	.135
	Medium		X^2=130,597	.000	.044
	High		X^2=14,591	.000	.026

Table 10: FCR and repurchase Chi Square test, p-value and Phi and Cramer's V results. Source:authors

Customers who participate on loyalty programs (V=.093) are, as well, more sensitive to FCR than those who don't (V=.086). We then reject the hypothesis *H5 a) The relationship between First Call Resolution, and repurchase behaviour is higher on customers not participating in loyalty programs.* Repurchase with FCR Yes increased 7,6% moving from customers who don't participate in loyalty programs to those who do, what is significant in our database (Appendix 7.1: Crosstabulation of FCR*Repurchase*Participation on Loyalty Programs). The abandon of the service (Repurchase No), for customers participating on loyalty programs increased 7,6% (from

16,6% to 24,2%), when there are not FCR. This reinforces the statistical result which shows customers participating on loyalty programs are more sensitive to convenience.

At last, low value customers show the highest association between FCR and Repurchase (V=.133). In fact, as customer value increases the strength of this association seems to decrease (low value V=.133; medium value V=.044; high value V=.026), what rejects the hypothesis: *H6 a) The relationship between First Call Resolution, and repurchase behaviour is higher on high value customers*. Even if we had predicted a different orientation, this is an important finding. Note (Appendix, Table 9.1: Crosstabulation of FCR*Repurchase*Relationship age) that repurchase increases 13% (representing 17391 customers) in low value customers moving from FCR No to FCR Yes, 3,1% in medium value customers and only 2,5% in high value customers.

Handling time * Repurchase

The relationship between Handling time and Repurchase was already confirmed in table 4 with a p-value <.05 and a Phi=.133, the highest we got. We present now this relationship adding our control variables. P-values <.05 confirmed the dependence of all the variables (see table 11). Despite that, we need to analyze Cramer's values, to confirm the association between variables.

			Repurchase		
			Chi Square	P-value	Phi and Cramer's V
Age	Young	**Handling time**	X^2=49,099	.000	,141
	Middle age		X^2=126,277	.000	,135
	Senior		X^2=168,588	.000	,141
Gender	F		X^2=1267,036	.000	,134
	M		X^2=1091,477	.000	,132
Relationship age	Beginner		X^2=901,810	.000	,142
	Advanced		X^2=1398,408	.000	,125
Loyalty programs	No		X^2=1250,447	.000	,129
	Yes		X^2=1224,866	.000	,145
Customer value	Low		X^2=804,883	.000	,135
	Medium		X^2=946,932	.000	,118
	High		X^2=236,343	.000	,104

Table 11: Handling time and repurchase Chi Square test, p-value and Phi and Cramer's V results.
Source: authors

Young and senior customers had the same V's coefficient (.141) rejecting the hypothesis *H2 b) The relationship between Average Handling Time and repurchase behaviour is higher on younger customers*.

V's for males (.134) and females (.132) were almost the same rejecting also the hypothesis *H3 b) The relationship between Average Handling Time and repurchase behaviour is higher on male customers.*

Relationship age with the service, however, found different values. Beginner customers had a higher V's (.142) than advanced customers (.125), supporting the hypothesis *H4 b) The relationship between Average Handling Time and repurchase behaviour is higher on customers with shorter relationship age with the service.* We must notice (Appendix 12.1: Crosstabulation AHT*Repurchase*Relationship Age.) that in beginner customers, repurchase increased 23,5% as we move from more than 24H of Average Handling Time to 1H. In advanced customers the increase is only of 19,1%.

The participation on loyalty programs (V=.145 versus V=.129) seems to increase the importance of the association between Average Handling Time and Repurchase. Since we predicted the opposite, the hypothesis *H5 b) The relationship between Average Handling Time and repurchase behaviour is higher on customers not participating in loyalty programs* was rejected.

As customers value increases, the importance of this relationship (Average Handling Time and Repurchase) seems to decrease (low value customers V=.135, medium value customers V=118, high value customers V=104). In fact, low value customers demonstrated the highest V's value, rejecting the hypothesis *H6 b) The relationship between Average Handling Time and repurchase behaviour is higher on high value customers.* In spite of having predicted the opposite, this is an important finding. Appendix 14.1 shows an increase of 21,1% in low value customers repurchase, as Average Handling Time reduces from more than 1 day to less than 1 hour. In high value customers the increase is of 18,1%.

Table 12 shows our research results concerning the formulated hypothesis.

Hypothesis	***Result***
H1 a) There is a positive relationship between First Call Resolution and consumers repurchase behaviour.	***Supported***
H2 a) The relationship between First Call Resolution and repurchase behaviour is higher on younger customers.	***Supported***
H3 a) The relationship between First Call Resolution and repurchase behaviour is higher on male customers.	*Not supported*
H4 a) The relationship between First Call Resolution and repurchase behaviour is higher on customers with shorter relationship age with the service.	***Supported***
H5 a) The relationship between First Call Resolution and repurchase behaviour is higher on customers not participating in loyalty programs.	*Not supported*
H6 a) The relationship between First Call Resolution and repurchase behaviour is higher on high value customers.	*Not supported*
H1 b) There is a positive relationship between Handling Time and consumers repurchase behaviour.	***Supported***
H2 b) The relationship between Average Handling Time and repurchase behaviour is higher on younger customers.	*Not supported*
H3 b) The relationship between Average Handling Time and repurchase behaviour is higher on male customers.	*Not supported*
H4 b) The relationship between Average Handling Time and repurchase behaviour is higher on customers with shorter relationship age with the service.	***Supported***
H5 b) The relationship between Average Handling Time, and repurchase behaviour is higher on customers not participating in loyalty programs.	*Not supported*
H6 b) The relationship between Average Handling Time and repurchase behaviour is higher on high value customers.	*Not supported*
H1 c) There is a negative relationship between Insistence Calls, and repurchase behaviour.	*Not Supported*
H2 c) The relationship between percentage of Insistence Calls and repurchase behaviour is higher on younger customers.	*Withdrawn*
H3 c) The relationship between Insistence Calls and repurchase behaviour is higher on male customers.	*Withdrawn*
H4 c) The relationship between Insistence Calls and repurchase behaviour is higher on customers with longer relationship age with the service.	*Withdrawn*
H5 c) The relationship between Insistence Calls and repurchase behaviour is higher on customers participating in loyalty programs.	*Withdrawn*
H6 c) The relationship between Insistence Calls and repurchase behaviour is higher on high value customers.	*Withdrawn*
H1 d) There is a negative relationship between Repeated Calls and consumers repurchase behaviour.	***Not Supported***
H2 d) The relationship between percentage of Repeated Calls and repurchase behaviour is higher on younger customers.	*Withdrawn*
H3 d) The relationship between Repeated Calls and repurchase behaviour is higher on male customers.	*Withdrawn*
H4 d) The relationship between Repeated Calls and repurchase behaviour is higher on on customers with shorter relationship age with the service.	*Withdrawn*
H5 d) The relationship between Repeated Calls and repurchase behaviour is higher on customers not participating in loyalty programs.	*Withdrawn*
H6 d) The relationship between percentage of Repeated Calls and repurchase behaviour is higher on high value customers.	*Withdrawn*

Table 12: Results of predicted hypothesis. **Source:** authors

9. DISCUSSION

Being responsible for 70% of the contacts with customers (Cheong *et al.*, 2008) Call Centers must offer convenience to customers. Service convenience (customers' time and effort expenditures on services) was represented in a Call Center setting by four performance indicators: First Call Resolution, Average Handling Time, Insistence Calls and Repeated Calls. We expected that the four indicators were related to customers repurchase behaviour, measured through the repeating use of the service. Supported by previous literature we also supposed that this relationship was higher on: males, young customers, customers with longer relationship ages with the service, customers not participating on loyalty programs and high value customers.

A sample of 133 783 customers and their contacts with a Call Center during six months were analysed. The repurchase behaviour of these customers was assessed three months later. Our findings showed that First Call Resolution and Average Handling Time are the indicators related to repurchase, what is consistent with literature (Feinberg *et al.*, 2000; van Dun *et al.*, 2000; Mattila and Mount, 2006; Abdullateef *et al.*, 2010; SQM, 2007). Average Handling Time was the indicator mostly related to repurchase, showing an increase of 20,90% in repurchase when moving from more than 24H to less than 1H, followed by FCR which increased 7,7% moving from FCR Yes to FRC No (see table 9 above). Insistence and Repeated Calls did not show statistical significance related to repurchase and were removed from our study.

Two control variables, age and gender, did not show statistical significance in the relationships between FCR and Repurchase and Average Handling Time and Repurchase. But three of them demonstrated a higher association with the variables: customers with shorter relationship ages with the service; customers participating on loyalty programs and low value customers.

As we predicted, customers with shorter relationship ages with the service (beginners) were proved to be more sensitive to service convenience than customers with longer relationships. Customers with longer relationships with the service seem to be more willing to expend time and effort to maintain the relationship (Seiders *et al.*2005). This

may be happening due to the exit barriers and costs of changing into a competitor that advanced customers would face.

Though we expected that customers not participating on loyalty programs would be more sensitive to convenience, our findings showed a stronger significance on the customers participating on loyalty programs. Participation on loyalty programs may be a complex issue. On one hand, customers get advantages when subscribing them (better service conditions, offerings, promotions or special access to marketing campaigns). By the other hand, they may become hostages of service contracts, which prevent them from exiting. If knowing these conditions customers are willing to participate on loyalty programs, they seem likely to be loyal to the service provider. In our research those who are participating in such a program were proved to be more sensitive to time and effort expenditures on their interaction with Call Centers. Even knowing that if they abandon the service they would be breaching the contract and incurring on penalties, they seem more likely to exit when time and effort are required, than those who are free (without loyalty contracts) to go.

At last, we expected that higher value customers would be less willing to expend time and efforts on services, but we found out that low value customers are the ones more likely to abandon the service when not achieving FCR or fast Average Handling Time. High value customers may have more barriers to change into competitors than low value customers.

CONCLUSIONS AND IMPLICATIONS

10. CONCLUSIONS AND IMPLICATIONS

Through the analysis of a real customers database, our study contributed to the identification of how Call Centers may deliver convenience to customers and identified the Call Center performance indicators - in what concerns customers' time and effort expenditures - which impact on repurchase behaviour. The contractual characteristics which strengthen this relationship were also proved.

Resolving or answering questions the first time the customer calls and the quickness of response are the two essential elements of the Call Centers performance impacting on customers' repurchase behaviour. Knowing that First Call Resolution and Average Handling Time are statistical related to customers' repurchase behaviour, Call Centers managers must manage and improve these key indicators.

Having found evidences of what contractual customers' characteristics impact on the relationship between service convenience and repurchase behaviour, we leave clues for Call Centers managers to operate. Customers participating on loyalty programs, customers at early stages of their relationship with the service and low value customers were those less willing to wait or make efforts to have their issues resolved. Call Centers may need to answer them first, in order to assure the repurchase of the service.

Knowing who the groups less likely to wait are, Call Centers may assign them higher answering priorities, Call Center managers may define higher priorities to customers considering variables such as the relationship age with the service, the participation on loyalty programs or the customers' value to the firm. Customer profiles distinguished according to patterns of convenience demand can provide a foundation for efficient planning and management strategies may be formulated on the basis of our findings. Segmenting convenience-oriented consumers, marketing could assign them convenience solutions.

This study is among few empirical studies on service convenience, which assess real customers' behavior instead of behavioral intentions or perceptions, what strengthens our findings.

11. LIMITATIONS AND FUTURE RESEARCH

The lack of crucial information on the studied database did not allow us to look for other Call Center indicators (representative of customers' time and effort) which may be related to customers repurchase (average time on waiting queues, time before abandonment, abandonment rates, talk time, etc.). In order to gain knowledge about their customers, companies must invest on getting accurate and complex databases. Besides the analyzed metrics, future research should look for other aspects (Call Centers agents competencies, for example) of the Call Centers performance related to customer satisfaction and repurchase.

The telecommunications service we studied implies a contractual relationship with the service. A similar study may find different conclusions in services discontinuously used, whose exit barriers are little or inexistent. Convenience demand may, as well, vary according to the type of service. Customers may be willing to expend time and effort to get specialized healthcare services but not to buy daily products at the supermarket. Therefore, future research must seek to understand which are the services where customers ask for more convenience. In the same way, research should look for convenience-orientated segments in what concerns price. Some may be price-oriented and likely to expend time and effort if that means saving money, whereas others would prefer to pay more if it means a more convenient service. Another important factor to be analyzed is how convenience demand differs according to the existence or not of alternatives. Customers may ask for convenience when they have different competitors available or within the same service different interaction channels, but may be more likely to expend time and effort when there are no options. In other words, research should try to find out who convenience orientated customers are. Are they timeless customers? Or healthy ones? Or can they differ according to the service type, price and the available options?

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APPENDIX

Chi Square Outputs

Appendix 1. Chi-Square tests outputs: FIRST CALL RESOLUTION (FCR) * REPURCHASE

FCR * REPURCHASE					
			REPURCHASE		Total
			No	Yes	
FCR	N	Count	22109	55217	77326
		Expected Count	19596,9	57729,1	77326,0
		% within FCR	28,6%	71,4%	100,0%
	Y	Count	11796	44661	56457
		Expected Count	14308,1	42148,9	56457,0
		% within FCR	20,9%	79,1%	100,0%
Total		Count	33905	99878	133783
		Expected Count	33905,0	99878,0	133783,0
		% within FCR	25,3%	74,7%	100,0%

Appendix 1.1: Crosstabulation of FCR and Repurchase.
Source: SPSS

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1022,079[a]	1	.000

Appendix 1.2: Chi-Square test output of the FCR-Repurchase association.
Source: SPSS

Symmetric Measures			
		Value	Approx. Sig.
Nominal by Nominal	Phi	0,087	.000
N of Valid Cases		133783	

Appendix 1.3: Phi's coefficient of the FCR-Repurchase association.
Source: SPSS

Appendix 2. Chi-Square tests outputs: AVERAGE HANDLING TIME (AHT) * REPURCHASE

HANDLING TIME * REPURCHASE					
			REPURCHASE		Total
			No	Yes	
AHT	1h-24h	Count	3324	6938	10262
		Expected Count	2600,7	7661,3	10262,0
		% within AHT	32,4%	67,6%	100,0%
	<1H	Count	26285	87479	113764
		Expected Count	28831,5	84932,5	113764,0
		% within AHT	23,1%	76,9%	100,0%
	>24H	Count	4296	5461	9757
		Expected Count	2472,7	7284,3	9757,0
		% within AHT	44,0%	56,0%	100,0%
Total		Count	33905	99878	133783
		Expected Count	33905,0	99878,0	133783,0
		% within HT	25,3%	74,7%	100,0%

Appendix 2.1: Crosstabulation of AHTime and Repurchase.
Source: SPSS

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2371,425[a]	2	.000

Appendix 2.2: Chi-Square test output of the AHT-Repurchase association.
Source: SPSS

Symmetric Measures			
		Value	Approx. Sig.
Nominal by Nominal	Phi	0,133	.000
N of Valid Cases		133783	

Appendix 2.3: Phi's coefficient of the AHT-Repurchase association. **Source:** SPSS

Appendix 3. Chi-Square tests outputs: INSISTENCE CALLS (IC) * REPURCHASE

INSISTENCE CALLS * REPURCHASE					
			REPURCHASE		Total
			No	Yes	
IC	N	Count	31857	94315	126172
		Expected Count	31976,1	94195,9	126172,0
		% within IC	25,2%	74,8%	100,0%
	Y	Count	2048	5563	7611
		Expected Count	1928,9	5682,1	7611,0
		% within IC	26,9%	73,1%	100,0%
Total		Count	33905	99878	133783
		Expected Count	33905,0	99878,0	133783,0
		% within IC	25,3%	74,7%	100,0%

Appendix 3.1: Crosstabulation of IC and Repurchase **Source:** SPSS

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10,449[a]	1	0,001

Appendix 3.2: Chi-Square test output of the IC-Repurchase association. **Source:** SPSS

Symmetric Measures			
		Value	Approx. Sig.
Nominal by Nominal	Phi	-0,009	0,001
N of Valid Cases		133783	

Appendix 3.3: Phi's coefficient of the IC-Repurchase association. **Source:** SPSS

Appendix 4. Chi-Square tests outputs: REPEAT CALLS (RC) * REPURCHASE

REPEATCALLS * REPURCHASE					
			REPURCHASE		Total
			No	Yes	
RC	N	Count	14137	48584	62721
		Expected Count	15895,6	46825,4	62721,0
		% within RC	22,5%	77,5%	100,0%
	Y	Count	19768	51294	71062
		Expected Count	18009,4	53052,6	71062,0
		% within RC	27,8%	72,2%	100,0%
Total		Count	33905	99878	133783
		Expected Count	33905,0	99878,0	133783,0
		% within RC	25,3%	74,7%	100,0%

Appendix 4.1: Crosstabulation of RC and Repurchas **Source:** SPSS

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	490,606[a]	1	0

Appendix 4.2: Chi-Square test output of the RC-Repurchase association. **Source:** SPSS

Symmetric Measures			
		Value	Approx. Sig.
Nominal by Nominal	Phi	-0,061	0
N of Valid Cases		133783	

Appendix 4.3: Phi's coefficient of the RC-Repurchase association. **Source:** SPSS

Appendix 5. Chi-Square tests outputs of FCR * REPURCHASE * AGE

FCR * REPURCHASE * AGE						
AGE				REPURCHASE		Total
				No	Yes	
Middle age	FCR	N	Count	853	2834	3687
			Expected Count	789,0	2898,0	3687,0
			% within FCR	23,1%	76,9%	100,0%
		Y	Count	619	2573	3192
			Expected Count	683,0	2509,0	3192,0
			% within FCR	19,4%	80,6%	100,0%
	Total		Count	1472	5407	6879
			Expected Count	1472,0	5407,0	6879,0
			% within FCR	21,4%	78,6%	100,0%
Senior	FCR	N	Count	963	3503	4466
			Expected Count	888,6	3577,4	4466,0
			% within FCR	21,6%	78,4%	100,0%
		Y	Count	727	3301	4028
			Expected Count	801,4	3226,6	4028,0
			% within FCR	18,0%	82,0%	100,0%
	Total		Count	1690	6804	8494
			Expected Count	1690,0	6804,0	8494,0
			% within FCR	19,9%	80,1%	100,0%
Young	FCR	N	Count	410	920	1330
			Expected Count	379,1	950,9	1330,0
			% within FCR	30,8%	69,2%	100,0%
		Y	Count	298	856	1154
			Expected Count	328,9	825,1	1154,0
			% within FCR	25,8%	74,2%	100,0%
	Total		Count	708	1776	2484
			Expected Count	708,0	1776,0	2484,0
			% within FCR	28,5%	71,5%	100,0%
Total	FCR	N	Count	2226	7257	9483
			Expected Count	2055,2	7427,8	9483,0
			% within FCR	23,5%	76,5%	100,0%
		Y	Count	1644	6730	8374
			Expected Count	1814,8	6559,2	8374,0
			% within FCR	19,6%	80,4%	100,0%
	Total		Count	3870	13987	17857
			Expected Count	3870,0	13987,0	17857,0
			% within FCR	21,7%	78,3%	100,0%

Appendix 5.1: Crosstabulation of FCR*Repurchase*Age **Source:** SPSS

Chi-Square Tests				
AGE		Value	df	Asymp. Sig. (2-sided)
Middle age	Pearson Chi-Square	14,252[c]	1	.000
Senior	Pearson Chi-Square	16,411[d]	1	.000
Young	Pearson Chi-Square	7,592[e]	1	0,006
Total	Pearson Chi-Square	38,657[a]	1	.000

Appendix 5.2: Chi-Square test output of FCR-Repurchase-Age association. **Source:** SPSS

Symmetric Measures				
AGE			Value	Approx. Sig.
Middle age	Nominal by Nominal	Cramer's V	0,046	.000
	N of Valid Cases		6879	
Senior	Nominal by Nominal	Cramer's V	0,044	.000
	N of Valid Cases		8494	
Young	Nominal by Nominal	Cramer's V	0,055	0,006
	N of Valid Cases		2484	
Total	Nominal by Nominal	Cramer's V	0,047	.000
	N of Valid Cases		17857	

Appendix 5.3: V's coefficient of FCR-Repurchase-Age association. **Source:** SPSS

Appendix 6. Chi-Square tests outputs: FCR * REPURCHASE * GENDER

FCR * REPURCHASE * GENDER						
GENDER				REPURCHASE		Total
				NO	Yes	
F	FCR	N	Count	12369	29401	41770
			Expected Count	11053,1	30716,9	41770,0
			% within FCR	29,6%	70,4%	100,0%
		Y	Count	6372	22681	29053
			Expected Count	7687,9	21365,1	29053,0
			% within FCR	21,9%	78,1%	100,0%
	Total		Count	18741	52082	70823
			Expected Count	18741,0	52082,0	70823,0
			% within FCR	26,5%	73,5%	100,0%
M	FCR	N	Count	9740	25816	35556
			Expected Count	8563,7	26992,3	35556,0
			% within FCR	27,4%	72,6%	100,0%
		Y	Count	5424	21980	27404
			Expected Count	6600,3	20803,7	27404,0
			% within FCR	19,8%	80,2%	100,0%
	Total		Count	15164	47796	62960
			Expected Count	15164,0	47796,0	62960,0
			% within FCR	24,1%	75,9%	100,0%
Total	FCR	N	Count	22109	55217	77326
			Expected Count	19596,9	57729,1	77326,0
			% within FCR	28,6%	71,4%	100,0%
		Y	Count	11796	44661	56457
			Expected Count	14308,1	42148,9	56457,0
			% within FCR	20,9%	79,1%	100,0%
	Total		Count	33905	99878	133783
			Expected Count	33905,0	99878,0	133783,0
			% within FCR	25,3%	74,7%	100,0%

Appendix 6.1: Crosstabulation of FCR*Repurchase*Gender **Source:** SPSS

Chi-Square Tests				
GENDER		Value	df	Asymp. Sig. (2-sided)
F	Pearson Chi-Square	519,341[c]	1	.000
M	Pearson Chi-Square	488,980[d]	1	.000
Total	Pearson Chi-Square	1022,079[a]	1	.000

Appendix 6.2: Chi-Square test output of FCR-Repurchase-Gender association. **Source:** SPSS

Symmetric Measures				
GENDER			Value	Approx. Sig.
F	Nominal by Nominal	Cramer's V	0,086	0
	N of Valid Cases		70823	
M	Nominal by Nominal	Cramer's V	0,088	0
	N of Valid Cases		62960	
Total	Nominal by Nominal	Cramer's V	0,087	0
	N of Valid Cases		133783	

Appendix 6.3: V's coefficient of FCR-Repurchase-Gender association. **Source:** SPSS

Appendix 7. Chi-Square tests outputs of FCR * REPURCHASE * PARTICIPATION ON LOYALTY PROGRAMS

FCR * REPURCHASE * LOYALTY PROGRAMS						
LOYALTYPROGRAMS				REPURCHASE		Total
				No	Yes	
N	FCR	N	Count	13810	29254	43064
			Expected Count	12358,7	30705,3	43064,0
			% within FCR	32,1%	67,9%	100,0%
		Y	Count	7766	24352	32118
			Expected Count	9217,3	22900,7	32118,0
			% within FCR	24,2%	75,8%	100,0%
	Total		Count	21576	53606	75182
			Expected Count	21576,0	53606,0	75182,0
			% within FCR	28,7%	71,3%	100,0%
Y	FCR	N	Count	8299	25963	34262
			Expected Count	7208,3	27053,7	34262,0
			% within FCR	24,2%	75,8%	100,0%
		Y	Count	4030	20309	24339
			Expected Count	5120,7	19218,3	24339,0
			% within FCR	16,6%	83,4%	100,0%
	Total		Count	12329	46272	58601
			Expected Count	12329,0	46272,0	58601,0
			% within FCR	21,0%	79,0%	100,0%
Total	FCR	N	Count	22109	55217	77326
			Expected Count	19596,9	57729,1	77326,0
			% within FCR	28,6%	71,4%	100,0%
		Y	Count	11796	44661	56457
			Expected Count	14308,1	42148,9	56457,0
			% within FCR	20,9%	79,1%	100,0%
	Total		Count	33905	99878	133783
			Expected Count	33905,0	99878,0	133783,0
			% within FCR	25,3%	74,7%	100,0%

Appendix 7.1: Crosstabulation of FCR*Repurchase*Participation on Loyalty Programs **Source:** SPSS

Chi-Square Tests				
LOYALTY PROGRAMS		Value	df	Asymp. Sig. (2-sided)
N	Pearson Chi-Square	559,541[c]	1	,000
Y	Pearson Chi-Square	503,186[d]	1	,000
Total	Pearson Chi-Square	1022,079[a]	1	,000

Appendix 7.2: Chi-Square test output of FCR-Repurchase-Participation on Loyalty Programs association. **Source:** SPSS

Symmetric Measures				
LOYALTY PROGRAMS			Value	Approx. Sig.
N	Nominal by Nominal	Cramer's V	,086	,000
	N of Valid Cases		75182	
Y	Nominal by Nominal	Cramer's V	,093	,000
	N of Valid Cases		58601	
Total	Nominal by Nominal	Cramer's V	,087	,000
	N of Valid Cases		133783	

Appendix 7.3: V's coefficient of FCR-Repurchase-Participation on Loyalty Programs association. **Source:** SPSS

Appendix 8. Chi-Square tests of FCR * REPURCHASE * RELATIOSHIP AGE

FCR * REPURCHASE * RELATIOSHIP AGE						
RELATIOSHIP AGE				REPURCHASE		Total
				NO	YES	
Advanced	FCR	N	Count	11473	37391	48864
			Expected Count	10230,2	38633,8	48864,0
			% within FCR	23,5%	76,5%	100,0%
		Y	Count	7149	32934	40083
			Expected Count	8391,8	31691,2	40083,0
			% within FCR	17,8%	82,2%	100,0%
	Total		Count	18622	70325	88947
			Expected Count	18622,0	70325,0	88947,0
			% within FCR	20,9%	79,1%	100,0%
Beginner	FCR	N	Count	10636	17826	28462
			Expected Count	9701,7	18760,3	28462,0
			% within FCR	37,4%	62,6%	100,0%
		Y	Count	4647	11727	16374
			Expected Count	5581,3	10792,7	16374,0
			% within FCR	28,4%	71,6%	100,0%
	Total		Count	15283	29553	44836
			Expected Count	15283,0	29553,0	44836,0
			% within FCR	34,1%	65,9%	100,0%
Total	FCR	N	Count	22109	55217	77326
			Expected Count	19596,9	57729,1	77326,0
			% within FCR	28,6%	71,4%	100,0%
		Y	Count	11796	44661	56457
			Expected Count	14308,1	42148,9	56457,0
			% within FCR	20,9%	79,1%	100,0%
	Total		Count	33905	99878	133783
			Expected Count	33905,0	99878,0	133783,0
			% within FCR	25,3%	74,7%	100,0%

Appendix 8.1: Crosstabulation of FCR*Repurchase*Relationship age **Source:** SPSS

Chi-Square Tests				
RELATIOSHIP AGE		Value	df	Asymp. Sig. (2-sided)
Advanced	Pearson Chi-Square	423,753	1	,000
Beginner	Pearson Chi-Square	373,798	1	,000
Total	Pearson Chi-Square	1022,079	1	,000

Table 8.2: Chi-Square test output of FCR-Repurchase- Relationship age association. **Source:** SPSS

Symmetric Measures				
RELATIOSHIP AGE			Value	Approx. Sig.
Advanced	Nominal by Nominal	Cramer's V	,069	,000
	N of Valid Cases		88947	
Beginner	Nominal by Nominal	Cramer's V	,091	,000
	N of Valid Cases		44836	
Total	Nominal by Nominal	Cramer's V	,087	,000
	N of Valid Cases		133783	

Appendix 8.3: V's coefficient of FCR-Repurchase-Relationship age association. **Source:** SPSS

Appendix 9. Chi-Square tests of FCR * REPURCHASE * CUSTOMER VALUE

FCR * REPURCHASE * CUSTOMER VALUE						
CUSTOMER VALUE				REPURCHASE		Total
				No	Yes	
High Value	FCR	N	Count	5368	8833	14201
			Expected Count	5245,1	8955,9	14201,0
			% within FCR	37,8%	62,2%	100,0%
		Y	Count	2669	4890	7559
			Expected Count	2791,9	4767,1	7559,0
			% within FCR	35,3%	64,7%	100,0%
	Total		Count	8037	13723	21760
			Expected Count	8037,0	13723,0	21760,0
			% within FCR	36,9%	63,1%	100,0%
Low value	FCR	N	Count	10720	15476	26196
			Expected Count	9319,7	16876,3	26196,0
			% within FCR	40,9%	59,1%	100,0%
		Y	Count	5079	13133	18212
			Expected Count	6479,3	11732,7	18212,0
			% within FCR	27,9%	72,1%	100,0%
	Total		Count	15799	28609	44408
			Expected Count	15799,0	28609,0	44408,0
			% within FCR	35,6%	64,4%	100,0%
Medium value	FCR	N	Count	6021	30908	36929
			Expected Count	5499,3	31429,7	36929,0
			% within FCR	16,3%	83,7%	100,0%
		Y	Count	4048	26638	30686
			Expected Count	4569,7	26116,3	30686,0
			% within FCR	13,2%	86,8%	100,0%
	Total		Count	10069	57546	67615
			Expected Count	10069,0	57546,0	67615,0
			% within FCR	14,9%	85,1%	100,0%
Total	FCR	N	Count	22109	55217	77326
			Expected Count	19596,9	57729,1	77326,0
			% within FCR	28,6%	71,4%	100,0%
		Y	Count	11796	44661	56457
			Expected Count	14308,1	42148,9	56457,0
			% within FCR	20,9%	79,1%	100,0%
	Total		Count	33905	99878	133783
			Expected Count	33905,0	99878,0	133783,0
			% within FCR	25,3%	74,7%	100,0%

Appendix 9.1: Crosstabulation of FCR*Repurchase*Customer value. **Source:** SPSS

Chi-Square Tests				
CUSTOMER VALUE		Value	df	Asymp. Sig. (2-sided)
High Value	Pearson Chi-Square	13,144[c]	1	.000
Low value	Pearson Chi-Square	796,309[d]	1	.000
Medium value	Pearson Chi-Square	128,112[e]	1	.000
Total	Pearson Chi-Square	1022,079[a]	1	.000

Appendix 9.2: Chi-Square test output of FCR-Repurchase- Relationship age association. **Source:** SPSS

Symmetric Measures				
CUSTOMER VALUE			Value	Approx. Sig.
High Value	Nominal by Nominal	Cramer's V	,025	,000
	N of Valid Cases		21760	
Low value	Nominal by Nominal	Cramer's V	,134	,000
	N of Valid Cases		44408	
Medium value	Nominal by Nominal	Cramer's V	,044	,000
	N of Valid Cases		67615	
Total	Nominal by Nominal	Cramer's V	,087	,000
	N of Valid Cases		133783	

Appendix 9.3: V's coefficient of FCR-Repurchase-Relationship age association. **Source:** SPSS

Appendix 10. Chi-Square tests of AVERAGE HANDLING TIME * REPURCHASE * AGE

AHT * REPURCHASE * AGE						
AGE				REPURCHASE		Total
				No	Yes	
Middle age	AHT	1H-24H	Count	118	369	487
			Expected Count	104,2	382,8	487
			% within AHT	24,20%	75,80%	100,00%
		<1H	Count	1129	4692	5821
			Expected Count	1245,6	4575,4	5821
			% within AHT	19,40%	80,60%	100,00%
		>24H	Count	225	346	571
			Expected Count	122,2	448,8	571
			% within AHT	39,40%	60,60%	100,00%
	Total		Count	1472	5407	6879
			Expected Count	1472	5407	6879
			% within AHT	21,40%	78,60%	100,00%
Senior	AHT	1H-24H	Count	119	407	526
			Expected Count	104,7	421,3	526
			% within AHT	22,60%	77,40%	100,00%
		<1H	Count	1345	6069	7414
			Expected Count	1475,1	5938,9	7414
			% within AHT	18,10%	81,90%	100,00%
		>24H	Count	226	328	554
			Expected Count	110,2	443,8	554
			% within AHT	40,80%	59,20%	100,00%
	Total		Count	1690	6804	8494
			Expected Count	1690	6804	8494
			% within AHT	19,90%	80,10%	100,00%

AHT * REPURCHASE * AGE						
AGE				REPURCHASE		Total
				No	Yes	
Young	AHT	1H-24H	Count	55	127	182
			Expected Count	51,9	130,1	182
			% within AHT	30,20%	69,80%	100,00%
		<1H	Count	535	1517	2052
			Expected Count	584,9	1467,1	2052
			% within AHT	26,10%	73,90%	100,00%
		>24H	Count	118	132	250
			Expected Count	71,3	178,7	250
			% within AHT	47,20%	52,80%	100,00%
	Total		Count	708	1776	2484
			Expected Count	708	1776	2484
			% within AHT	28,50%	71,50%	100,00%
Total	AHT	1H-24H	Count	292	903	1195
			Expected Count	259	936	1195
			% within AHT	24,40%	75,60%	100,00%
		<1H	Count	3009	12278	15287
			Expected Count	3313	11974	15287
			% within AHT	19,70%	80,30%	100,00%
		>24H	Count	569	806	1375
			Expected Count	298	1077	1375
			% within AHT	41,40%	58,60%	100,00%
	Total		Count	3870	13987	17857
			Expected Count	3870	13987	17857
			% within AHT	21,70%	78,30%	100,00%

Appendix 10.1: Crosstabulation of AHT*Repurchase*Age **Source:** SPSS

Chi-Square Tests				
AGE		Value	df	Asymp. Sig. (2-sided)
Middle age	Pearson Chi-Square	126,277[b]	2	.000
Senior	Pearson Chi-Square	168,588[c]	2	.000
Young	Pearson Chi-Square	49,099[d]	2	.000
Total	Pearson Chi-Square	355,653[a]	2	.000

Appendix 10.2: Chi-Square test output of AHT-Repurchase-Age association. **Source:** SPSS

Symmetric Measures				
AGE			Value	Approx. Sig.
Middle age	Nominal by Nominal	Cramer's V	0,135	.000
	N of Valid Cases		6879	
Senior	Nominal by Nominal	Cramer's V	0,141	.000
	N of Valid Cases		8494	
Young	Nominal by Nominal	Cramer's V	0,141	.000
	N of Valid Cases		2484	
Total	Nominal by Nominal	Cramer's V	0,141	.000
	N of Valid Cases		17857	

Appendix 10.3: V's coefficient of AHT-Repurchase-Age association. **Source:** SPSS

Appendix 11. Chi-Square tests of AVERAGE HANDLING TIME * REPURCHASE * GENDER

AVERAGE HANDLING TIME * REPURCHASE * GENDER						
GENDER				REPURCHASE		Total
				No	Yes	
F	AHT	1H-24H	Count	1784	3410	5194
			Expected Count	1374,4	3819,6	5194,0
			% within AHT	34,3%	65,7%	100,0%
		<1H	Count	14635	45850	60485
			Expected Count	16005,4	44479,6	60485,0
			% within AHT	24,2%	75,8%	100,0%
		>24H	Count	2322	2822	5144
			Expected Count	1361,2	3782,8	5144,0
			% within AHT	45,1%	54,9%	100,0%
	Total		Count	18741	52082	70823
			Expected Count	18741,0	52082,0	70823,0
			% within AHT	26,5%	73,5%	100,0%
M	AHT	1H-24H	Count	1336	2840	4176
			Expected Count	1005,8	3170,2	4176,0
			% within AHT	32,0%	68,0%	100,0%
		<1H	Count	12010	42533	54543
			Expected Count	13136,8	41406,2	54543,0
			% within AHT	22,0%	78,0%	100,0%
		>24H	Count	1818	2423	4241
			Expected Count	1021,5	3219,5	4241,0
			% within AHT	42,9%	57,1%	100,0%
	Total		Count	15164	47796	62960
			Expected Count	15164,0	47796,0	62960,0
			% within AHT	24,1%	75,9%	100,0%
Total	AHT	1H-24H	Count	3120	6250	9370
			Expected Count	2374,7	6995,3	9370,0
			% within AHT	33,3%	66,7%	100,0%
		<1H	Count	26645	88383	115028
			Expected Count	29151,9	85876,1	115028,0
			% within AHT	23,2%	76,8%	100,0%
		>24H	Count	4140	5245	9385
			Expected Count	2378,5	7006,5	9385,0
			% within AHT	44,1%	55,9%	100,0%
	Total		Count	33905	99878	133783
			Expected Count	33905,0	99878,0	133783,0
			% within AHT	25,3%	74,7%	100,0%

Appendix 11.1: Crosstabulation AHT*Repurchase*Gender. **Source:** SPSS

Chi-Square Tests				
GENDER		Value	df	Asymp. Sig. (2-sided)
F	Pearson Chi-Square	1247,759	2	.000
M	Pearson Chi-Square	1088,346	2	.000
Total	Pearson Chi-Square	2349,599	2	.000

Appendix 11.2: Chi-Square test output of AHT-Repurchase- Gender association. **Source:** SPSS

Symmetric Measures				
GENDER			Value	Approx. Sig.
F	Nominal by nominal	Cramer's V	0,133	.000
	N of Valid Cases		70823	
M	Nominal by nominal	Cramer's V	0,131	.000
	N of Valid Cases		62960	
Total	Nominal by nominal	Cramer's V	0,133	.000
	N of Valid Cases		133783	

Appendix 11.3: V's coefficient of AHT-Repurchase-Gender association. **Source:** SPSS

Appendix 12. Chi-Square tests of AVERAGE HANDLING TIME * REPURCHASE * RELATIONSHIP AGE

AVERAGE HANDLING TIME * REPURCHASE1 * RELATIOSHIP AGE						
RELATIOSHIP AGE				REPURCHASE		Total
				No	Yes	
Advanced	AHT	1H-24H	Count	1680	4690	6370
			Expected Count	1333,6	5036,4	6370,0
			% within AHT	26,4%	73,6%	100,0%
		<1H	Count	14542	61739	76281
			Expected Count	15970,2	60310,8	76281,0
			% within AHT	19,1%	80,9%	100,0%
		>24H	Count	2400	3896	6296
			Expected Count	1318,1	4977,9	6296,0
			% within AHT	38,1%	61,9%	100,0%
	Total		Count	18622	70325	88947
			Expected Count	18622,0	70325,0	88947,0
			% within AHT	20,9%	79,1%	100,0%
Beginner	AHT	1H-24H	Count	1644	2248	3892
			Expected Count	1326,6	2565,4	3892,0
			% within AHT	42,2%	57,8%	100,0%
		<1H	Count	11743	25740	37483
			Expected Count	12776,6	24706,4	37483,0
			% within AHT	31,3%	68,7%	100,0%
		>24H	Count	1896	1565	3461
			Expected Count	1179,7	2281,3	3461,0
			% within AHT	54,8%	45,2%	100,0%
	Total		Count	15283	29553	44836
			Expected Count	15283,0	29553,0	44836,0
			% within AHT	34,1%	65,9%	100,0%
Total	AHT	1H-24H	Count	3324	6938	10262
			Expected Count	2600,7	7661,3	10262,0
			% within AHT	32,4%	67,6%	100,0%
		<1H	Count	26285	87479	113764
			Expected Count	28831,5	84932,5	113764,0
			% within AHT	23,1%	76,9%	100,0%
		>24H	Count	4296	5461	9757
			Expected Count	2472,7	7284,3	9757,0
			% within AHT	44,0%	56,0%	100,0%
	Total		Count	33905	99878	133783
			Expected Count	33905,0	99878,0	133783,0
			% within AHT	25,3%	74,7%	100,0%

Appendix 12.1: Crosstabulation AHT*Repurchase*Relationship Age. **Source:** SPSS

Chi-Square Tests				
RELATIOSHIP AGE		Value	df	Asymp. Sig. (2-sided)
Advanced	Pearson Chi-Square	1398,408	2	0
Beginner	Pearson Chi-Square	901,81	2	0
Total	Pearson Chi-Square	2371,425	2	0

Appendix 12.2: Chi-Square test output of AHT-Repurchase-Relationship Age association. **Source:** SPSS

Symmetric Measures				
RELATIOSHIP AGE			Value	Approx. Sig.
Advanced	Nominal by Nominal	Cramer's V	0,125	.000
	N of Valid Cases		88947	
Beginner	Nominal by Nominal	Cramer's V	0,142	.000
	N of Valid Cases		44836	
Total	Nominal by Nominal	Cramer's V	0,133	.000
	N of Valid Cases		133783	

Appendix 12.3: V's coefficient of AHT-Repurchase-Relationship Age association. **Source:** SPSS

Appendix 13. Chi-Square tests outputs of AVERAGE HANDLING TIME * REPURCHASE * PARTICIPATION ON LOYALTY PROGRAMS

AHT * REPURCHASE * LOYALTYPROGRAMS						
LOYALTY PROGRAMS				REPURCHASE		Total
				No	Yes	
N	AHT	1H-24H	Count	1956	3549	5505
			Expected Count	1579,8	3925,2	5505,0
			% within AHT	35,5%	64,5%	100,0%
		<1H	Count	17074	47312	64386
			Expected Count	18477,7	45908,3	64386,0
			% within AHT	26,5%	73,5%	100,0%
		>24H	Count	2546	2745	5291
			Expected Count	1518,4	3772,6	5291,0
			% within AHT	48,1%	51,9%	100,0%
	Total		Count	21576	53606	75182
			Expected Count	21576,0	53606,0	75182,0
			% within AHT	28,7%	71,3%	100,0%
Y	AHT	1Day	Count	1368	3389	4757
			Expected Count	1000,8	3756,2	4757,0
			% within AHT	28,8%	71,2%	100,0%
		1Hour	Count	9211	40167	49378
			Expected Count	10388,6	38989,4	49378,0
			% within AHT	18,7%	81,3%	100,0%
		Days	Count	1750	2716	4466
			Expected Count	939,6	3526,4	4466,0
			% within AHT	39,2%	60,8%	100,0%
	Total		Count	12329	46272	58601
			Expected Count	12329,0	46272,0	58601,0
			% within AHT	21,0%	79,0%	100,0%
Total	AHT	1H-24H	Count	3324	6938	10262
			Expected Count	2600,7	7661,3	10262,0
			% within AHT	32,4%	67,6%	100,0%
		<1H	Count	26285	87479	113764
			Expected Count	28831,5	84932,5	113764,0
			% within AHT	23,1%	76,9%	100,0%
		>24H	Count	4296	5461	9757
			Expected Count	2472,7	7284,3	9757,0
			% within AHT	44,0%	56,0%	100,0%
	Total		Count	33905	99878	133783
			Expected Count	33905,0	99878,0	133783,0
			% within AHT	25,3%	74,7%	100,0%

Appendix 13.1: Crosstabulation AHT*Repurchase* Participation on Loyalty Programs. **Source:** SPSS

Chi-Square Tests				
LOYALTY PROGRAMS		Value	df	Asymp. Sig. (2-sided)
N	Pearson Chi-Square	1250,447	2	,000
Y	Pearson Chi-Square	1224,866	2	,000
Total	Pearson Chi-Square	2371,425	2	0,000

Appendix 13.2: Chi-Square test output of AHT-Repurchase-Participation on Loyalty Programs association. **Source:** SPSS

Symmetric Measures				
LOYALTY PROGRAMS			Value	Approx. Sig.
N	Nominal by Nominal	Cramer's V	,129	,000
	N of Valid Cases		75182	
Y	Nominal by Nominal	Cramer's V	,145	,000
	N of Valid Cases		58601	
Total	Nominal by Nominal	Cramer's V	,133	0,000
	N of Valid Cases		133783	

Appendix 13.3: V's coefficient of AHT-Repurchase-Participation on Loyalty Programs association. **Source:** SPSS

Appendix 14. Chi-Square tests of AVERAGE HANDLING TIME * REPURCHASE * CUSTOMER VALUE

AHT * REPURCHASE * CUSTOMER VALUE						
CUSTOMER_VALUE				REPURCHASE		Total
				0	1	
High Value	AHT	1H-24H	Count	844	1294	2138
			Expected Count	789,7	1348,3	2138,0
			% within AHT	39,5%	60,5%	100,0%
		<1H	Count	6240	11588	17828
			Expected Count	6584,7	11243,3	17828,0
			% within AHT	35,0%	65,0%	100,0%
		>24H	Count	953	841	1794
			Expected Count	662,6	1131,4	1794,0
			% within AHT	53,1%	46,9%	100,0%
	Total		Count	8037	13723	21760
			Expected Count	8037,0	13723,0	21760,0
			% within AHT	36,9%	63,1%	100,0%
Low value	AHT	1H-24H	Count	1576	2029	3605
			Expected Count	1282,5	2322,5	3605,0
			% within AHT	43,7%	56,3%	100,0%
		<1H	Count	12102	24769	36871
			Expected Count	13117,6	23753,4	36871,0
			% within AHT	32,8%	67,2%	100,0%
		>24H	Count	2121	1811	3932
			Expected Count	1398,9	2533,1	3932,0
			% within AHT	53,9%	46,1%	100,0%
	Total		Count	15799	28609	44408
			Expected Count	15799,0	28609,0	44408,0
			% within AHT	35,6%	64,4%	100,0%
Medium value	AHT	1H-24H	Count	904	3615	4519
			Expected Count	673,0	3846,0	4519,0
			% within AHT	20,0%	80,0%	100,0%
		<1H	Count	7943	51122	59065
			Expected Count	8795,8	50269,2	59065,0
			% within AHT	13,4%	86,6%	100,0%
		>24H	Count	1222	2809	4031
			Expected Count	600,3	3430,7	4031,0
			% within AHT	30,3%	69,7%	100,0%
	Total		Count	10069	57546	67615
			Expected Count	10069,0	57546,0	67615,0
			% within AHT	14,9%	85,1%	100,0%
Total	AHT	1H-24H	Count	3324	6938	10262
			Expected Count	2600,7	7661,3	10262,0
			% within AHT	32,4%	67,6%	100,0%
		<1H	Count	26285	87479	113764
			Expected Count	28831,5	84932,5	113764,0
			% within AHT	23,1%	76,9%	100,0%
		>24H	Count	4296	5461	9757
			Expected Count	2472,7	7284,3	9757,0
			% within AHT	44,0%	56,0%	100,0%
	Total		Count	33905	99878	133783
			Expected Count	33905,0	99878,0	133783,0
			% within AHT	25,3%	74,7%	100,0%

Appendix 14.1: Crosstabulation AHT*Repurchase*Customer Value. **Source:** SPSS

Chi-Square Tests				
CUSTOMER_VALUE		Value	Df	Asymp. Sig. (2-sided)
High Value	Pearson Chi-Square	236,343[b]	2	,000
Low value	Pearson Chi-Square	804,883[c]	2	,000
Medium value	Pearson Chi-Square	946,932[d]	2	,000
Total	Pearson Chi-Square	2371,425[a]	2	0,000

Appendix 14.2: Chi-Square test output of AHT-Repurchase-Customer Value association. **Source:** SPSS

Symmetric Measures				
CUSTOMER VALUE			Value	Approx. Sig.
High Value	Nominal by Nominal	Cramer's V	,104	,000
	N of Valid Cases		21760	
Low value	Nominal by Nominal	Cramer's V	,135	,000
	N of Valid Cases		44408	
Medium value	Nominal by Nominal	Cramer's V	,118	,000
	N of Valid Cases		67615	
Total	Nominal by Nominal	Cramer's V	,133	0,000
	N of Valid Cases		133783	

Appendix 14.3: V's coefficient of AHT-Repurchase-Customer Value association. **Source:** SPSS