Research Paper

The Determinants of Customer Retention in the Construction Industry of the Maldives

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Abstract

The purpose of the research is to examine the factors that impact customer retention in the construction industry of the Maldives. Since there is no research done on the construction industry of Maldives, the research is the pioneer research done and opens the gateway for researchers and students. Based on the critical review of research literature from across the globe, a set of research questions were developed. Research questions were divided into six categories based on the dependent variable and independent variables. The dependent variable used in this research is Customer Retention. The independent variables that were used to determine customer retention are Corporate Image, Quality, Project Management, Relationship with the Customer and Price. The research has utilized the survey approach with a survey questionnaire. The data collection was based on random sampling and a total of 126 respondents who were all customers of the construction industry of Maldives participated in the survey. The collected data was analyzed using SPSS statistical tool by regression analysis. The results of this research indicated that two out of the five independent variables have significant impact on customer retention; Corporate Image and Relationship with the Customer. The variable Corporate Image is found to have a very strong impact on customer retention. Meanwhile, the other three variables; Quality, Project Management and Price were not found to have a significant impact on customer retention. This research data collection is focused on one critical location in Maldives (Male’, the capital city) and the results generated may be driven by this. Hence, it is encouraged to include other critical location of Maldives in future studies so that a much more holistic results may be generated.

Key Terms: Customer Retention, Corporate Image, Quality, Customer Relationship, Project Management, Price
1. Introduction

The phenomenon of customer retention needs more structure and a great amount of research to unveil its central features. The use of ‘soft’ performance criteria, is at an early evolutionary stage in construction (Homburg and Rudolph 2000; Torbica & Stroh, 2001). Furthermore, few scholars have discussed it analytically and at length. Additionally, no research on Maldives construction industry is so far published. This shortage of empirical evidences makes contractors unsure about how to gain competitive advantages with regards to clients in the tough and challenging market of construction.

When the contractors are unaware of the factors that lead to customer retention, they are unable to get the financial benefits from the tenure lengths like increased purchase volumes by customers or increased referrals from customers (Ang and Buttle, 2005). Accordingly, this would lead to loss of customers, loss of market share, loss of contracts and loss of company's reputation.

In order to achieve the desired business outcomes, the construction companies need to be aware of the factors that make customers stay with them and develop strategies to enhance customer retention (Kotler and Armstrong, 2010). To move forward in this direction, the industry needs empirical evidences to guide them.

Ultimately, the research is aimed to help contractors be more aware and responsive to customer needs, prevent the fallout from disputes during construction, and reap the benefits that are achievable from customer retention, including repeat business, word-of-mouth recommendation and customer loyalty (Bei and Chiao, 2001; Parasuraman, Zeithaml and Berry, 1994; Sunindijo, Hadikusumo and Phangchunun, 2014). This research therefore is focused on dynamics of customer retention in the multi-dimensional field of construction, quantitatively exploring and understanding detailed patterns of customer needs and expectations. As no research regarding retaining of customers in the construction companies has been published in Maldives so far, this study would also be a contribution to Maldives which is at an infant stage of research.

The broad objective of this research is to investigate the factors that lead to customer retention in construction industry of the Maldives. The specific objectives are the following:

- To investigate the impact of corporate image on customer retention.
- To analyse the impact of quality on customer retention
- To assess the impact of project management on customer retention
- To study the impact of customer relationship on customer retention
- To evaluate the impact of price on customer retention

2. Literature Review

Kamara (2000) describes ‘customer’ as a body that incorporates the interests of the buyer of construction services, prospective users and other interest groups. A customer is the project owner or a general contractor in case of subcontracts in contrast of wider perspective, whereby customer includes: the co-contractors and partners, project director, project team members, contractors and subcontractors, vendors and suppliers, users of the product and services and society (Kärnä, Junnonen, and Kankainen, 2004).

Customer retention is concerned with maintaining the business relationship established between a contractor and a customer. Blatberg, Getz, and Thomas (2001), define customer retention as occurring when the customer continues to purchase the product or service over a specified time period or when the customer indicates the intention to purchase the product or service at the next purchase occasion. Accordingly, Jeng and Baily (2012), define customer
retention as engaging customer in the contract which can be formal and informal through repeated transactions.

Hence, for the purpose of this study, customer is regarded as the owner of the project and the one that needs the constructed facility and customer retention is defined as when the customer keeps on choosing a specific contractor for construction projects.

Numerous studies have pointed out the factors that contribute to customer retention. Three of such studies are discussed below to attain a deeper understanding of the phenomenon. Kim and Lee (2010) studied the relationships among corporate image, brand awareness, service price, service quality, customer support services, and customer loyalty, and investigated the key drivers that establish and maintain customer loyalty to mobile telecommunications service providers. Four hundred and sixty-nine samples, which were collected from participants in a web-based survey in Korea, were analysed using multiple regression analysis techniques. The results of the study show that corporate image, brand awareness, service price, and service quality are strong antecedents for establishing customer loyalty in mobile communications service markets.

Specific to the construction sector, Sunindijo, Hadikusumo and Phangchunun (2014) developed a four-dimensional model to assess the customers’ behavioural intentions in ongoing business relations with Thai housing contractors. Structural equation modelling was used to analyse the theoretical model and to establish relationships among the research variables. The results show that there are four dimensions of service quality: reliability, responsiveness, assurance, and tangibility, in which the first three dimensions are more important than the last in influencing service quality. Furthermore, client satisfaction is a mediator of the causal relationship between service quality and behavioural intention. The result indicated the need for contractors to focus on maintaining and identifying factors that affect client satisfaction, particularly after projects are completed, to encourage client behavioural intentions such as the decision to remain with a contractor.

Kärnä, Junnonen, and Sorvala (2009) conducted a study to examine factors influencing customer satisfaction in the construction industry. They developed a model and framework and tested the model. Data for the model was based on 831 assessments obtained from project customers with regard to the successfulness of the project. The results show that customer satisfaction in construction is affected by various factors such as project management, skills, the end result, communication and methods of the project. The study shows that in order to improve their level of service, the contractors should focus on developing and improving their central processes. With regard to customer retention, this stresses the significance of the entire selection of services and products the contractor offers.

A conceptual framework also known as a theoretical framework is defined by Miles and Huberman as ‘something that explains either graphically or in narrative form, the main things to be studied - the key factors, constructs or variables - and the presumed relationship among them (1994, p.18). The understanding gained from reviewing of the preceding literature is used to develop the conceptual framework of the study (Figure 1) and the variables and sub-variables of the study. The identified dependent variable of the study is Customer retention and the independent variables of the study are; Corporate Image, Quality, Project Management, Relationship with the Customer and Price. The independent variables are considered to have a direct impact on the dependent variable and are illustrated in Figure 1.
Figure 1: Conceptual Framework

**Corporate Image and Customer Retention**

Corporate image is the result of how consumers perceive the firm, and it is expected to be built up mainly by the technical and functional quality of its services, and will eventually affect service perceptions (Grönroos, 1994). Corporate image is considered to be a critical factor in the overall evaluation of any organization (Bitner, 1992; Gummesson and Grönroos, 1998; Kandampully and Hu, 2007; Sarstedt, Wilczynski and Melewar, 2012) because of the strength that lies in the customers' perception and mind when hearing the name of the organization (Nguyen, 2006; Bravo, Montaner and Pina 2009). If an organization has a good corporate image in the marketplace, consumers may have a preference for that company even if there are similar businesses offering the same products or services for different prices (Kim and Lee, 2010).

Studies showed the direct impact (Nguyen & Leblanc, 2001) as well as indirect effect (Ball et al.2006) of corporate image on customer loyalty. Corporate image is considered as an important factor in establishing and maintaining loyalty among customers and hence, customer retention likelihood (Ball et al. 2006; Nguyen & Leblanc, 2001). According to attitude theory, the foremost cause of corporate image is the evaluation of services which increases value and becomes more accessible in memory (Fazio, 1989). Moreover, when the company on the basis of its view of the market creates a brand and translates this brand into the brand image as perceived by customer, this strategy develops greater customer satisfaction and furthermore greater brand loyalty (Royle, Cooper and Stockdale, 1999).

Bitner (1992) proposes that cues from the physical environment are instrumental in communicating the firm's purpose and image. Baker (1993) contends that a positive ambiance has considerable influence on employee motivation and the quality of the service encounter. Interestingly, physical environment and contact personnel are integral parts of service quality identified by Parasuraman, Zeithaml and Berry (1988). Thus, to attain a stronger corporate image, contractors must create a site environment in which the personnel, the physical layout, the use of technology and the materials used collaborate serve and support superior customer experiences.

Grönroos (1984) argues that corporate image is built mainly by technical quality, i.e. what the customer receives from the service experience, the functional quality, and the manner in which the service is delivered. Similarly, since customer satisfaction is described as a judgement made on the basis of a specific service encounter and satisfaction levels derived from each service encounter is viewed as having an effect on image assessments (Cronin and Taylor, 1992). Hence, the overall image of the service firm is influenced by perceived service quality, customer satisfaction, and by perceived service value. Corporate image can then provide added
value to consumers (Devlin, 2001). For Johnson et al. (2001), the key to perception of corporate image is the organization-related association held in a customer's memory. Since consumer could evoke the past experience in future purchase intention, previously image could appear as an explicatory variable of the purchase intention in this context.

Based on the above discussions, corporate image is popularly seen as a key determinant of an organisation's ability to competitively position itself in the minds of target consumers, relative to competitors. Hence, the first hypothesis is proposed:

**H1: There is a significant positive impact of corporate image on customer retention.**

**Quality and Customer Retention**

Quality has been considered as one of the most important and competitive factors amongst the constructing companies during the past two decades. Scholars identify quality as an effective tool to enhance the firm's position in the market place and a major factor in achieving client satisfaction (Al-Momani, 2000; Baron and Harris, 2003; Ling and Chong, 2005). It should be seen as the prime cause of client satisfaction and the appropriate way to create or sustain a competitive advantage, and building a strong and lasting relationship with clients (Preece and Moodley 1996, Preece and Tarawneh 1996). The dominating perspective in literature has been to assume that quality has a positive correlation with satisfaction, which in turn will lead to increased customer retention. Rust and Zahorik (1993) address the chain of impact of quality on satisfaction and satisfaction on customer retention, and further customer retention on profitability.

Grönroos (1984) and Fornell et al. (1996) defined two types of perceived quality, which are product quality and service quality. In construction perceived product quality could be regarded as how the customer perceives technical quality of what is delivered (e.g. the quality of the finished building) while perceived service quality could be treated as how the customer perceived the construction process (the efficiency skilfulness of the workers and the project management). Customers are potentially more aware of service quality when it comes to construction, because they are able to observe the service delivery (construction) as it happens dynamically onsite and what they see potentially pre-empts what they expect as the end product. The most important aspect of a quality project is the workmanship (Iwaro and Mwasha, 2012). Ensuring operational quality at each stage in the construction process should ensure that the quality of the final product will satisfy the client (Jang, Russell and Yi, 2003).

Product quality in construction industry is the ability to meet the established requirements such as the established characteristics of the building (product) as specified in the contractual agreement (Arditi and Gunaydin, 1997; Kärnä, 2009; Maloney, 2002; and Yasamis, Arditi and Mohammadi, 2002). On the other hand, Barret (2000), argues that quality of construction projects is the fulfilment of expectations (i.e. the satisfaction) of those participants involved. These definitions emphasise two aspects of quality in construction projects; “meeting requirements”, which represents a technical view of quality which can be measured objectively, and “meeting client's expectations” where achievement of quality involves both technical measurements and human judgment. In the handbook of Project management Institute, A Guide to the Project Management Body of Knowledge (2013), it was further explained that combining both the conformance to specifications (The project's production should be the same as it was expected to be) and fitness for use (referring to satisfaction of the product or service to the real needs of the customer) determines the level of quality.

Maloney (2002) elucidates how service quality facilitates client satisfaction in construction. He identified ten determinants that need to be adopted and deployed by the contractor to exhibit service quality. These determinants include; access, communication, competence, courtesy, credibility, reliability, service, tangibles and understanding and knowing the customer. Buttle (1996) also highlights service quality as a critical issue in the performance of contractors in achieving customer satisfaction and retention.
Ahmed and Kangari (1995) and Ganaway (2006) encourage knowing well the values and the requirements of the client, to devise systems and approaches that uncover the root causes of the contractor's quality and service problems, and to implement changes to eliminate these problems. Kärnä (2004) conducted an empirical analysis to explore client satisfaction (public and private) in Finland. The study found that the need for contractors to improve performance related mostly to quality assurance, handover procedures and material. The results of the study indicate the importance of quality assurance throughout the project and its impact on customer retention.

Hence, the following hypothesis is proposed:

\[ H2: \text{There is a significant positive impact of quality on customer retention.} \]

**Project Management and Customer Retention**

Construction projects involve numerous stakeholders that are closely related and interacted during a given project. The way a project is managed directly influences the level of satisfaction experienced by the client. For contractors, completing a project in accordance with the plans and specifications, within budget and on time satisfies client needs and generates profit (Yang and Peng, 2006).

Songer and Molenaar (1996), defined specification as workmanship guidelines provided to contractors by clients or clients' representatives at the commencement of project execution. The measure of technical specification is to the extent that the technical requirements specified can be achieved. In addition to that, Songer and Molenaar (1997), consider meeting specifications as one success criterion for design-and-build projects that is consistent with the measurement of technical performance, which is to be measured in both the preconstruction and construction phases when the technical requirements are laid down.

Frimpong, Oluwoye, and Crawford (2003) define project success as meeting goals and objectives prescribed in the project plan and opine that a successful project is the one that has accomplished its technical performance, maintained its schedule, and remained within budgetary costs. For Giridha and Ramesh (1998), project management involves managing the resources—workers, machines, money, materials and methods used. This emphasises the need for contractors to develop project management tools and techniques for the effective management of a project. Improper management of projects cause delays and cost overruns (Frimpong, Oluwoye, and Crawford; 2003).

Literature emphasis importance of meeting client needs when managing projects (Chan, 2001; Kometa Olomolaiye and Harris, 1995; Chan, Scott and Lam, 2002). Kometa, Olomolaiye and Harris (1995) opined that there would be no point in undertaking a project if it does not fulfil its intended function at the end. This indicator correlates with expectations of project participant and can best be measured by the degree of conformance to all technical performance specifications (Chan, Scott and Lam, 2002). Chan (2001) considered 'functionality' as one success measure that is made in the post construction phase when the project is finished and delivered to service.

Poor performance such as time delays, low quality and cost overrun are identified as major drawbacks to the success of construction projects (Lo, Fung and Tung, 2006). Frimpong, Oluwoye, and Crawford (2003) suggested that time delays and cost overruns arise primarily as a result of payment difficulties, poor contractor management, material procurement problems, poor technical ability, and escalation of material prices. On the other hand, some researchers have analysed the major causes of quality defects, one of which Atkinson (1999) identified as human effort and another of which Love et al., (2000) described as poor workmanship.
Construction time can be regarded as the elapsed period from the commencement of site works to the completion and handover of a building to the client and is usually specified before the commencement of construction. According to Salter and Torbett (2003), ensuring timely delivery of projects is one of the important factors that leads to customer satisfaction. Hence, it is very important for construction projects to be completed on time, as the clients, users, stakeholders and the general public usually looks at project success from the macro view where their first criterion for project success appeared to be the completion time (Lim and Mohamed, 2000). Dissatisfaction is widely experienced by clients of the construction sector because of the overrunning project costs and inconveniences due to delays (Chan, Scott, and Lam, 2001).

The studies by Latham (1994) and Egan (1998), has gained a lot of attention in the field of construction, both from practitioners and academics. The main outcome and recommendation of the Latham (1994) report was its call for significant cost savings by the utilization and formulation of effective construction processes, which will in turn lead to increased performance. The recommendations of this report were reaffirmed in the report by Egan (1998), which reported to the deputy Prime Minister John Prescott on the scope for improving the quality and efficiency of UK construction. This report identified five key drivers of change that need to set the agenda for the construction industry at large, one of which is integrated processes and teams. Within the focus for integrated processes and teams, four key elements were identified: product development; project implementation; partnering the supply chain; and production of components. Furthermore, the Egan (1998) report called for annual reductions of 10% in construction cost and time and an annual reduction of 20% in project defects. This total performance improvement of 30% requires significant improvements in the way that the construction process is enacted. It will require a significant reengineering of the construction process and the sub processes involved in undertaking construction works.

Project management processes are generally categorized into five areas: initiation, planning, executing, monitoring and controlling, and closing processes (Project Management Institute, 2013). These processes are incorporated in a project to organize series of actions or activities essential to manage a project successfully. According to Farinde and Sillars (2012), in the ever-changing construction industry, the clients' needs are also changing and so, it is important that executive management focuses on overall company success by utilizing project management standards and processes to create long-term relationships.

Based on the above discussions, the third hypothesis is proposed:

**H3: There is a significant positive impact of project management on customer retention.**

**Relationship with the Customer and Customer Retention**

Storbacka, Strandvik and Grönroos (1994) argue about the importance of enhancing the relationship with the customers in order to retain them. They believe that the bonds between the customer and the provider and the commitment to this relationship function as switching barriers. Henning (2000) analysed customer retention by creating a linear model. This model indicates that between customer satisfaction and customer retention there is a very important factor - the relationship quality. Clearly linear model layout shows that these factors are equally important.

After carrying studying exemplary practices carried out in selected twelve projects, Faulkner (1996) found from a mass of evidences that the practices were judged by the clients in various ways, but with a common core of two factors: value for money (not cheapest) and good team working (relationship) with the construction participants and the client. The clients expected the contractors to deliver a unified service, not to pass any problem around (Faulkner, 1996). This evidence suggests that generative relationships (Senge, 1990) between clients and contractors are needed where problems are solved mutually and new prospects are created.
through collaboration. Related work of Soetanto and Proverbs (2004), developed intelligent models to predict levels of construction customer satisfaction using the artificial neural network technique based on the view of customers on contractors’ performance. The study identified that a well-established working relationship at site personnel level is a fundamental factor for customer satisfaction.

Positive verbal communication has been found to enhance the customer – contractor relationship as it affects the customer’s expectations (Grönroos 2000; Maloney, 2002). For instance, in the United States, a large residential builder has estimated that 60% of the building sales of the company can be merited to positive verbal communication (Reichheld and Sasser 1990). In the same way, managing customer complaints well strengthens relationship (Ang and Buttle, 2006; Fornell and Wernerfelt, 1987) because it enhances customer’s expected utility gained from purchase (Fornell and Wernerfelt, 1987).

One of the central features of service is that the customer participates in the service’s production process at least to some extent (Grönroos 2000). In construction, the customer takes part in the different activities of construction, depending on the form of implementation. If the customer is strongly involved in the construction process, the contractor’s service and its significance in construction are emphasised. (Yasamis, Arditi and Mohammadi. 2002; Torbica and Stroh 2001).

A good relationship with the customer enhances customer satisfaction. Soetanto, Proverbs and Holt (2001) recognise that the satisfactory performance of participants is a prerequisite to maintaining harmonious working relationships. Additionally, Ireland (1992) emphasises that the project manager’s role is vital for mutual, trusting relationships and customer satisfaction.

The customer of construction industry highly values the client-contractor relationship. Customers select a contractor according to the contractor’s capability to co-operate, which emphasises the contractor-customer relationship during the project (Kärnä, 2009).

Hence, the following hypothesis is formulated:

**H4: There is a significant positive impact of customer relationship on customer retention.**

**Price and Customer Retention**

The literature argues that customer satisfaction is the result of a customer’s perception of the value received in a transaction or relationship – where value equals perceived service quality relative to price and customer acquisition costs (see Blanchard and Galloway, 1994; Heskett, Sasser and Hart, 1990) – relative to the value expected from transactions or relationships with competing vendors (Zeithaml, Parasuraman, and Berry, 1990). Loyalty behaviours, including relationship continuance, increased scale or scope of relationship, and recommendation (word of mouth advertising) result from customers’ beliefs that the quantity of value received from one firm is greater than that available from others (Bitner, Booms and Tetreault, 1990; Cronin and Taylor, 1992). Reichheld, (1994) argues that customers remain loyal, not because of promotions and marketing programs, but because of the value they receive.

Emphasis on price as an important factor of customer perceived value is widely advocated (Anderson, Fornell and Lehmann, 1994; Athanassopoulos, 2000; Cronin, Brady and Hult, 2000; Fornell, 1992; Zeithaml, 1988). Abundant empirical surveys reported in the marketing area indicated that both objective price and perceived price are crucial factors for consumers to evaluate value (Zeithaml, 1988). According to Anderson, Fornell and Lehmann, (1994) from customer’s cognitive conception, price is something that must be given up or sacrificed to obtain certain kind of products or services. The monetary price is not equal to the target price in customer’s mind (Zeithaml, 1988) and for customers, perceived price is more meaningful than monetary price (Bei and Chiao, 2001).
It is argued that lower monetary price does not necessarily contribute to high perceived value. Consumers usually judge price and service quality by the concept of 'equity', then generate their satisfaction or dissatisfaction level (Oliver, 2010). Recent marketing literature shows researchers' inclination towards price fairness in relation with perceived value and satisfaction (Hermann et al., 2007; Kukar-Kinney, Xia and Monroe, 2007; Martin-Consuegra, Molina and Esteban, 2007). Price fairness refers to consumers' assessments of whether a seller's price is reasonable, acceptable or justifiable (Xia, Monroe and Cox 2004; Kukar-Kinney, Xia and Monroe 2007). Research has shown that customer's decision to accept particular price has a direct bearing at satisfaction level and loyalty behaviour (Martin-Consuegra, Molina and Esteban, 2007). In the study of Herrmann et al., (2007), it was concluded that customer satisfaction is directly influenced by price perceptions while indirectly through the perception of price fairness.

Proverbs and Holt (2000) identified cost as the most essential parameter required by construction clients. Cost is defined as the degree to which the general conditions promote the completion of a project within the estimated budget (Bubshait and Almohawis, 1994). Cost overruns, in association with project delays, are frequently identified as one of the principal factors leading to low perceived value (Charles and Andrew, 1990; Lo, Fung and Tung, 2006; Frimpong, Oluwoye and Crawford, 2003). Therefore, to increase customer perceived value in projects, contractors should manage the projects properly to avoid any cost overrun.

The construction industry has a unique combination of characteristics and factors influencing the delivery of each project. It is an industry that uses the 'project' method of delivery to plan, price, organize, and produce a unique facility. Each constructed facility typically represents a major long-term investment for an owner who is actively involved throughout the delivery process. Due to the unique production environment, the delivery process can also have a huge impact on perceived value (Bausman, 2001).

Bei and Chiao (2001) found perceived price fairness has positive effects; both direct and indirect effect (through consumer satisfaction) on consumer loyalty. From customer's perspective, price is what is given up or sacrificed to obtain a product. It is possible to display the intention of repeat purchase behaviour. On the other hand, if customers do not feel that their sacrifices are worthwhile, they may not choose to purchase again, even when they are satisfied with the quality of a product.

Hence, the following hypothesis is formulated:

\[ H5: \text{There is a significant positive impact of price on customer retention.} \]

3. **Research Design and Methodology**

Adapting the positivist assumptions is regarded as most ideal for this research since the study aims to find out if certain factors (pre-defined hypotheses) affect customer retention in the construction industry of the Maldives and to objectively determine whether the predictive hypotheses of the study hold true (Creswell, 2013). The philosophical realism form of positivism, adhering closely to the hypothetico-deductive method (Sciarra, 1999; Cacioppo, Semin, & Berntson, 2004) will enable the researcher to verify the priori hypotheses and convert collected data into mathematical formulas expressing functional relationships (Guba & Lincoln, 1994; McGrath & Johnson, 2003).

This study is descriptive in nature because descriptive studies are aimed at finding out "what is," and the study is aimed at finding out the factors that affect customer retention in the construction industry of Maldives (Borg and Gall, 1989; Creswell, 2013). Data for the study was
gathered by using a survey questionnaire and data will be organized, tabulated, illustrated, and described clearly (Glass and Hopkins, 1984, Creswell, 2013).

For the study purpose primary data are used. The primary data were collected from customers of construction companies by using a questionnaire as data collecting tool. This is because when using primary data, 'the operationalization of theoretical constructs, the research design and data collection strategy can be tailored to the research question, which ensures the study is coherent and the information collected indeed helps to resolve the problem' (Hox and Boeije, 2005, p. 594).

Random sampling is used in this research. The key function of systemic random sampling is to improve generalizability of results to the entire population, which is also known as external validity (Walpole, Myers and Myers, 1998). Random sampling provides equal opportunity to be selected in the sample, removes the possibility of over representation of a given segment of the population and reduces sampling error by allowing the researcher to estimate size and error (Vogt, 2007). In selecting the sample for the research, characteristics of respondents (i.e. the population of interest) were taken into consideration (McDaniel and Gates, 2012). A total of 145 questionnaires were distributed, with the target of achieving a response rate of 85 percent, but on completion of the survey 126 valid responses were received, giving a response rate of 87 percent, higher than the set target.

As for this research, multiple regression analysis has been utilized to analyze statistical modelling, with focus on the dependent variable and all the independent variables (Hair, et Al, 2010). The F-statistic is used in the regression in order to test the significant relationship between dependent and independent variable (Blackwell, 2008). Accordingly, the significant of variables are determined using the F-statistic accordance to each independent variable in the regression analysis, in which the rule of thumb of significance is from 0.01 to 0.05 (Blackwell, 2008).

Furthermore, the degree of a good model fit will be determined by adopting regression analysis. If the research model is a good fit model, a minimum of 60% of the variables in the multiple regressions that can be seen in the coefficient of determinants (R²), which is ranged from 0 to 1 (Burns and Bush, 2010). The higher the R square the stronger the association between the dependent variable and the independent variable (Burns and Bush, 2010).

Likewise, to encounter the presence of autocorrelation on predicted errors are examined in the Durbin-Watson from the analysis of regression, the range used is between 0 and 4 and the residuals between 1.5 and 2.5 are considered to be uncorrelated (Dufour and Dagenais, 1985).

4. Results and Discussion

4.1 Demographic Data

The demographic statistical data define the characteristics of a population (Roth and BeVier, 1998), as for this research demographic information being captured is gender, age, and educational level. The demographic results are shown below in table 2

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Sub-Demographics</th>
<th>Sample of 126</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>43</td>
<td>35.1%</td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td>83</td>
<td>64.9%</td>
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<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 - 25 years</td>
<td></td>
<td>41</td>
<td>32.5%</td>
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<tr>
<td>26 - 35 years</td>
<td></td>
<td>53</td>
<td>42.1%</td>
</tr>
<tr>
<td>36 - 45 years</td>
<td></td>
<td>22</td>
<td>17.5%</td>
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<tr>
<td>46 - 55 years</td>
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<td>7</td>
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</tr>
<tr>
<td>56 and above</td>
<td></td>
<td>3</td>
<td>2.4%</td>
</tr>
<tr>
<td>Education</td>
<td>Certificate</td>
<td>32</td>
<td>25.4%</td>
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<td>-----------</td>
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</tr>
<tr>
<td>Diploma</td>
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<td></td>
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<tr>
<td>Degree</td>
<td>25</td>
<td></td>
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<tr>
<td>Masters</td>
<td>17</td>
<td></td>
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<tr>
<td>Professional</td>
<td>16</td>
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<td>12.7%</td>
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</tbody>
</table>

**Table 1 Demographics of the study**

The above table (Table 2) explains the number of respondents’ sub-demographics and percentage calculation of the demographics. There is a need for a significant increment in Female gender since 65% of the respondents are males. There is also the need for systematic age distribution as 42% of the respondents are in the age group of 26 – 35 and only 2% of the respondents are in the age group of 56 and above. The educational levels of respondents are evenly distributed.

The impact of these demographics will be very minimal on this study, since this research is customer retention related, where most significant information needed from experience with a contractor. All the respondents in the study have taken service from a contractor at least once in their lives.

**4.2 Scale Reliability Analysis**

Reliability is an indication of how consistent the findings are based on the method of data collection and analysis (Saunders, Lewis and Thornhill, 2007). The most common method for testing the reliability is the *Cronbach alpha coefficient* (Cronbach, 1951). The *Cronbach alpha coefficient* ranges 0 to 1 with a value of 0.70 suggesting adequate levels of internal reliability (Hair et al., 2010).

To ensure the reliability and consistency of the questions, a scale reliability analysis was conducted by utilizing SPSS tool, by using Cronbach's alpha measurement method. There are two type of scale reliability analysis conducted for this research; the whole scale of the questionnaire reliability and individual variables questions reliability.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>All variables</td>
<td>0.971</td>
</tr>
<tr>
<td>Corporate Image</td>
<td>0.813</td>
</tr>
<tr>
<td>Quality</td>
<td>0.929</td>
</tr>
<tr>
<td>Project Management</td>
<td>0.939</td>
</tr>
<tr>
<td>Relationship with Customers</td>
<td>0.940</td>
</tr>
<tr>
<td>Price</td>
<td>0.867</td>
</tr>
<tr>
<td>Customer retention</td>
<td>0.741</td>
</tr>
</tbody>
</table>

**Table 2 Scale of Reliability**

*Dependent Variable*

As per table 3, the dependent variable, customer retention has indicated Cronbach’s alpha score of 0.741, above 0.70 threshold (Hair et al., 2010). Hence, this variable has high internal consistency and is acceptable. The dependent variable for this research is to measure what contributes to customer retention in a construction firm. As per the scoring, this dependent variable is extremely reliable for this research.

*Independent Variables*

The independent variables chosen for this study are Corporate Image, Quality, Project Management, Relationship with the Customer and Price. All the five independent variables have been measured based on the questionnaires. All questions were measured on five point Likert type scale.
**Corporate Image**: Based on the reliability test, Cronbach’s alpha score for the variable Corporate Image is 0.813, which is above the threshold of 0.70, indicating high reliability for this variable (Hair et al., 2010). The Corporate Image aspects that have been measured in this variable are Profile of Company, Customer Satisfaction, Past Projects, Brand Image and Awards and Certificates. The objective of this valuation is to determine whether the corporate image of a construction company influences a customer to obtain repeated services.

**Quality**: Based on the reliability test, Cronbach’s alpha score for the variable Quality is 0.929, which is above threshold of 0.70, indicating high reliability for this variable (Hair et al., 2010). The quality aspects that have been measured in this variable are Meeting expectations, Product and Finishing Quality, Material Quality, Workmanship and Skillfulness and Variations. The objective of this assessment is to determine if these aspects of quality are valued by the customers.

**Project Management**: Based on the reliability test, Cronbach’s alpha score for the variable Project Management is 0.939, which is highly above threshold of 0.70, indicating Project Management as a strongly reliable variable (Hair et al., 2010). The Project Management aspects that been measured in this variable are Project Plan, Staff and Site Activity, Procurement and Logistics, Timely Delivery and Monitoring and Control. The objective of this valuation is to determine whether the customers are concerned about the way a project is managed by the construction company.

**Relationship with the Customer**: Based on the reliability test, Cronbach’s alpha score for the variable Relationship with the Customer is 0.940, which is above threshold of 0.70, indicating high reliability for this variable (Hair et al., 2010). The Relationship aspects that have been measured in this variable are Collaboration, Communication, Cooperation, Complaint Handling and Trust. The objective of this assessment is to determine if the customers prefer the construction company to keep a good relationship with them.

**Price**: Based on the reliability test, Cronbach’s alpha score for the variable Price is 0.867, which is above threshold of 0.70, indicating high reliability for this variable (Hair et al., 2010). The Price aspects that have been measured in this variable are Value, Cost Management, Procurement, Price Fairness and Price Details. The objective of this valuation is to determine whether customers consider price before choosing a construction company.

Accumulatively, the scores of Cronbach’s Alpha for the entire conceptual framework shows reliability to conduct the study (Hair et al., 2009).

### 4.3 Interpretation of Descriptive Data

The descriptive statistics matrix created from the research’s data set is shown in the table below (table 4). As for this research, the mean and standard deviation will be discussed below. The mean is selected because it is the most common form of central tendency and is appropriate for analyzing descriptive statistics (Allen and Seaman, 2007; Thompson, 2009). The mean is more affected by the allocation of the values than is the median and it is more responsive to outliers (Thompson, 2009).

Where the mean was above 3 it was interpreted as a positive response towards the statement or the question, when the mean was below 3 it was interpreted as a negative response.
Based on above descriptive statistics of this research (table 4), below are the interpretations of the results.

**Dependent Variable**
The mean statistics of the dependent variable, Customer Retention has the highest mean with a mean score of 4.0693 and standard deviation of 0.70048. The mean of 4.0693 suggests that the respondents on average agreed with the measurement indicators. A mean score above the median suggest good measurement instrument. The higher standard deviation suggests higher deviation of individual responses from the group mean. In this case, the standard deviation is not very high, neither low suggesting acceptable central tendency of the data.

**Independent Variables**

**Quality**: Among the independent variables, Quality has the highest mean with a mean score of 3.9066 and a standard deviation of 0.72300. The mean of 3.9066 suggests that the respondents on an average agreed with the measurement indicators. In this case the standard deviation is not very high, neither low suggesting acceptable central tendency of data.

**Relationship with the Customer**: The independent variable with the second highest mean is Relationship with the Customer with a mean of 3.8312 and standard deviation of 0.76079. The mean of 3.8312 suggests that the respondents on an average agreed with the measurement indicators. In this case the standard deviation is not very high, neither low suggesting acceptable central tendency of data.

**Project Management**: The independent variable with the third highest mean is Project Management with a Mean of 3.7516 and standard deviation of 0.74264. The mean of 3.7516 suggests that the respondents on an average agreed with the measurement indicators. In this case the standard deviation is not very high, neither low suggesting acceptable central tendency of data.

**Corporate Image**: The independent variable with the fourth highest mean is Corporate Image with a Mean of 3.6917 and standard deviation of 0.69445. The mean of 3.8312 suggests that the respondents on an average agreed with the measurement indicators. In this case the standard deviation is not very high, neither low suggesting acceptable central tendency of data.

**Price**: The independent variable with the lowest mean is Price with a Mean of 3.6503 and standard deviation of 0.70603. The mean of 3.6503 suggests that the respondents on an average agreed with the measurement indicators. In this case too, the standard deviation is not very high, neither low suggesting acceptable central tendency of data.

**4.4 Regression Analysis**
The regression analysis of 126 samples collected for this study is being explored in the following sub-sections for what determines the customer retention of construction companies of Maldives.

**4.4.1 Regression Model Summary**
Linear regression produces model summary which explains how good is the overall research model in achieving the desired output (Hair et al., 2010). Regression analysis predicted the impact of the independent variables on the dependent variable (customer retention) as per below (Table 5), Model summary.

<table>
<thead>
<tr>
<th>Model Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Price, Corporate_Image, Quality, Relationship_with_customers, Project_management

b. Dependent Variable: Customer Retention

**Table 4 Model Summary**

The linear regression used for this study shows that coefficient of determination (R square) at 56.0% of the dependent variable (customer retention) is being influenced by the independent variables used in this study and adjusted R Square at 54.2% of the dependent variable is being described by the independent variables. This means that the other 45.8% is being described by factors which were not included in this study which actually highlights the limitation of the study in addressing the target phenomena. Based on quantitative research methods the minimum predict for the variables is 60% to be a good fit model, this elaborate that the model is weak (Zygmont and Smith, 2014).

However, the Durbin-Watson test for auto-correlation shows that the value of the model is at 1.832 which is between the values 1.5 to 2.5. This indicates that there is no first order linear auto-correlation between samples used in the study (Hair et al., 2010; Bakon and Hassan, 2013). This shows that one sample is not being influenced by the other samples and that each sample is separately independent and influential.

**4.4.2 ANOVA Table**

Analysis of variance (ANOVA) is a collective of statistical models used to analyze differences among variables (Owen, 1991). According to Hair et al., if the p value (Sig. Value) is equal to or lower than 0.05, means there is statistic significant difference in the mean length (2010).

<table>
<thead>
<tr>
<th>ANOVAa</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Regression</td>
<td>34.092</td>
<td>5</td>
<td>6.818</td>
<td>30.330</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>26.752</td>
<td>119</td>
<td>.225</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>60.844</td>
<td>124</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Retention

b. Predictors: (Constant), Price, Corporate_Image, Quality, Relationship_with_customers, Project_management

**Table 5 Analysis of Variance (ANOVA)**

Based on the above data (Table 6) ANOVA report, this research has p value (Sig. Value) of 0.00 which is below 0.05. This concludes that the regression model used for predicting the impact on customer retention is statistically significant (Hair et al., 2010).
4.5 Justification on Hypothesis Results

Based on the significant value from regression analysis, conducted by using SPSS tool, the table below (Table 7) shows the results of hypothesis testing for the five independent variables. The decision is based on the regression analysis which produces the beta coefficient results and significant values.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Beta Coefficient</th>
<th>Significant (P&lt;0.05)</th>
<th>Decision</th>
<th>Interpretations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1</strong>: There is a significant positive impact of Corporate Image on Customer Retention.</td>
<td>0.449</td>
<td>0.000 Significant as the calculated p-value is less than 0.05.</td>
<td>Accepted</td>
<td>The beta coefficient of 0.449 indicates that Corporate Image has a 44.9% positive impact on Customer Retention.</td>
</tr>
<tr>
<td><strong>H2</strong>: There is a significant positive impact of Quality on Customer Retention.</td>
<td>0.027</td>
<td>0.832 Not Significant as the calculated p-value is more than 0.05.</td>
<td>Rejected</td>
<td>The beta coefficient of 0.027 indicates that Quality has a 2.7% positive impact on customer retention</td>
</tr>
<tr>
<td><strong>H3</strong>: There is a significant positive impact of Project Management on Customer Retention.</td>
<td>0.029</td>
<td>0.829 Not Significant as the calculated p-value is more than 0.05.</td>
<td>Rejected</td>
<td>The beta coefficient of 0.029 indicates that Project Management has a 2.9% positive impact on customer retention</td>
</tr>
<tr>
<td><strong>H4</strong>: There is a significant positive impact of Relationship with the Customer on Customer Retention.</td>
<td>0.284</td>
<td>0.023 Significant as the calculated p-value is less than 0.05.</td>
<td>Accepted</td>
<td>The beta coefficient of 0.284 indicates that Relationship with the Customer has a 28% positive impact on customer retention</td>
</tr>
<tr>
<td><strong>H5</strong>: There is a significant positive impact of Price on Customer Retention.</td>
<td>0.123</td>
<td>0.185 Not Significant as the calculated p-value is more than 0.05.</td>
<td>Rejected</td>
<td>The beta coefficient of 0.123 indicates that Price has an 12.3% positive impact on Customer Retention</td>
</tr>
</tbody>
</table>

Table 6 Hypothesis Analysis

4.6 Discussion

Fisher (1958) saw the P value as an informal index to be used as a measure of discrepancy between the data and the null hypothesis. Hypotheses with p values less than 0.05 are proven have a significant impact (Cramer and Howitt, 2004).

**Corporate Image and Customer Retention**

The standardized beta coefficient is 0.449 which shows a 44.9% positive impact of the independent variable (Corporate image) on dependent variable (Retention) with a significance value of 0.00 which is less than 0.05. This indicates that corporate image places a significant impact in terms of being an influential factor in determining customer retention in the Maldivian construction industry.

To further ensure this results relevant, researcher have deep dive into other similar research conducted to examine how those research could further support this research.
According to attitude theory, the foremost cause of corporate image is the evaluation of services which increases value and becomes more accessible in memory (Fazio, 1989). Many past studies on corporate image to quote few (Doney and Cannon, 1997; Davies et al. 2002; Page and Fearn, 2005) have explored the influence of customers’ behaviour regarding corporate image. The results of these studies emphasise that positive experience over time ultimately leads to positive image and if corporation is having strong corporate image within the consumers, it would ultimately lead them to adopt loyal behaviour to that corporation.

**Quality and Customer Retention**

The standardized beta coefficient for quality is 0.027 which shows a small 2.7% positive impact of the independent variable (Quality) on dependent variable (Retention) with a significance value of 0.832 which is more than 0.05. This indicates that quality places an insignificant impact in terms of being an influential factor in determining customer retention in the Maldivian construction industry.

However, the study done by Kärnä (2004) to examine customer satisfaction and retention in terms of quality as perceived by two customer groups: public and private customers revealed quality as an influential factor in customer satisfaction and retention. This finding is similar to the findings of Soetanto, Proverbs and Holt (2001), whose importance-performance analysis suggests that contractors need to improve quality in their performance in most aspects of the project.

On the other hand, there are contradicted findings on the influence of quality on purchase intentions. Cronin and Taylor (1992) examined the relationship between service quality, customer satisfaction, and purchase intentions. Their study revealed that service quality does not have a significant impact on purchase intentions.

**Project Management and Customer Retention**

The standardized beta coefficient for Project Management is 0.029 which shows a 2.9% of a positive impact of the independent variable (Project Management) on dependent variable (Retention) with a significance value of 0.829 which is more than 0.05. This indicates that Project Management places an insignificant impact in terms of being an influential factor in determining customer retention in the Maldivian construction industry.

This finding contradicts with most of the trending empirical findings in literature. Mir and Pinnington (2013) conducted a study to test the relationship between project management, project success and customer retention, drawing from empirical data on project management professionals working in UAE project-based organisations. Bi-variate correlation and multiple regression tests found a positive influence of project management and its contributing variables on project success which ultimately lead to retention.

**Relationship with the Customer and Customer Retention**

The standardized beta coefficient for Relationship with the Customer is 0.284 which shows 28.4% of a positive impact of the independent variable (Relationship with the Customer) on dependent variable (Retention) with a significance value of 0.023 which is more than 0.05. This indicates that Relationship with the Customer places a significant impact in terms of being an influential factor in determining customer retention in the Maldivian construction industry.

The finding of this study is supported by several other studies. Henning (2000) analyzed customer retention by creating a linear model. This model indicates that between customer satisfaction and customer retention there is a very important factor - the relationship quality. Clearly linear model layout shows that these factors are equally important. The study conducted by Kärnä, (2009) to examine factors that lead to customer satisfaction of construction industry in Finland also indicates that the customer of construction industry highly values the client-
contractor relationship. Customers select a contractor according to the contractor's capability to co-operation, which emphasises the contractor-customer relationship during the project (Kärnä, 2009).

**Price and Customer Retention**

The standardized beta coefficient for Project Management is 0.123 (12.3%) which shows a very small positive impact of the independent variable (Project Management) on dependent variable (Retention) with a significance value of 0.185 which is less than 0.05. This indicates that Price places an insignificant impact in terms of being an influential factor in determining customer retention in the Maldivian construction industry.

Martin-Consuegra, Molina and Esteban (2007), conducted a study to investigate the effects of customer satisfaction both directly and indirectly (through retention) on price acceptance. In addition, price fairness was considered in this study as an antecedent of customer satisfaction and retention. The results from the study provide empirical support, suggesting that perceived price fairness influences customer satisfaction and retention. The analysis also suggests that customer satisfaction and retention are two important antecedents of price acceptance. On the other hand, it is argued that lower monetary price does not necessary contribute to high perceived value. Consumers usually judge price and service quality by the concept of ‘equity’, then generate their satisfaction or dissatisfaction level (Oliver, 1997).

5. **Conclusion**

This research was conducted to investigate the factors that impact customer retention in the construction industry of Maldives. The quantitative data required for the study was gathered through a sample size of 126 participants (customers of construction companies). Regression analysis was employed to gauge the impact of independent variables (Corporate Image, Quality, Project Management, Relationship with the Customer and Price) on the Dependent Variable (Customer retention).

All the variables chosen for the study, both the dependent variable and the five independent variables have indicated Cronbach's alpha scoring of above 0.70 (Hair et al., 2010), indicating variables have high internal consistency and are acceptable. The descriptive data analysis also supported that most of the respondents perceive that the independent variables chosen for this study affects positively to the dependent variable. The regression analysis indicated two out of the five independent variables have significant impact on customer retention; Corporate Image and Relationship with the Customer. The variable Corporate Image is found to have a very strong impact on customer retention. Meanwhile, the other three variables; Quality, Project Management and Price were not found to have a significant impact on customer retention.

In conclusion, the results of this research indicates that the customers of the construction industry highly value the corporate image of a construction company and look for construction companies that have a high profile, strong brand image with good track records whenever they need a project to be done. Furthermore, the relationship a contractor keeps with the customer; how the contractor handles complaints, collaborates with the customer, cooperates to customer’s demands and maintains a flow of communication during a project also influences a customer’s decision to remain with a contractor.

**Reference**


