Child care service quality, customer satisfaction and customer loyalty in Dar es Salaam Tanzania

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Abstract: Service quality and satisfaction are essential areas that organizations need to consider for their effectiveness and growth. Satisfied customers form the foundation of a successful business as customer satisfaction leads to repeated purchase and brand loyalty. The study used service quality SERVQUAL collected data from 411 working mothers using structured questionnaires data were analyzed using PLS-SEM. It was revealed that service quality both influence customer satisfaction and customer loyalty, even when the effects of all constructs are considered simultaneously. The study recommends that, child care centres endeavor to improve all aspects of service quality as elaborated in SERVQUAL model to attain working mother loyalty on child care centres. Moreover, Ministry of Community Development, Gender, and Children in Tanzania need to review and amend policies, laws, and regulations on childcare services to incorporate working mothers view of child care services, customer satisfaction and customer loyalty as per finding of the study.

Key words: Customer loyalty, Customer satisfaction, child care, SERVQUAL, Service quality.

I. INTRODUCTION

The formation of customer loyalty has been an important area of research by scholars and practitioners over the past 35 years (Heri, 2017; Setianawan & Sayuti, 2017). It is practically impossible for a business organization to survive without building customer satisfaction and brand loyalty (Iddrisu & Mensah, 2015). Customer loyalty is considered as a major tool for retaining customers, repurchase and customer relationship in any particular service (Kobbekaduwa, et al., 2019). Studies shows that customer loyalty in most cases depends on service quality and customer satisfaction of the service offered (Hasdiansa & Raju, 2018). Working mother’s loyalty to childcare services is based on the fact that it allows them to work without worry of their children's welfare while at work.

Traditionally, women in Sub-Saharan Africa depended on other family members in the extended family for child care and housework support. Participation of women in labor force outside their home had come with families challenges. Women are facing challenge on how they can bring up the little one while they are at work. One of the challenges concerns managing households as well as their profession. Family life and care of young children have been affected by this change as households with young children have to be reliant on different ways of managing childcare responsibilities such as formal care (Singh, 2018). The situation had caused pressure to working mother to balance work-family challenges. A survey data from Kenya, Liberia, and Senegal on women who faced constraints relating to deciding on choices between childcare and jobs was 91% in Liberia, 82% in Kenya, and 72% in Senegal, Bhaktal, 2014 cited in (Sammon et al., 2016). This means that child care centres are becoming a more reliable solution to working mothers arguably; if required a high standard level of child services offered by centres so as to enhance loyalty to working mothers. Hussin et al., (2019) asserted that childcare is fulfilling at least two different functions. The first role is to free up parents particularly mothers to get back to paid employment. The second role is to foster the physical, cognitive and social development of children. Childcare centres had increasingly becoming a viable solution for working mothers.

Despite of the growing demand for childcare services and their critical role in the development and learning of children, childcare service centres are deficient in applying marketing-oriented approaches to their child care service delivery (Pacheco et al., 2016 Tout et al., 2015). Service providers need to discover their clients’ needs and desires, in order to adapt and respond timely to their expectations and their perceptions. If working mothers are not satisfied with their childcare arrangements they may not be able to fully engage in their work. A dissatisfied customer tells seven to 20 people about their negative experience, whereas a satisfied customer only tells three to five people about their positive experience and providing new referrals through word of mouth (Libent, 2015; Magasi, 2016).

Childcare is an essential resource for working mothers, and satisfaction with certain characteristics of quality will provide positive outcomes in their working environment. According to the available literature, SERVQUAL models are rich enough to provide specific knowledge of measuring childcare service quality (Ling et al, 2019; Untaru et al., 2019). This study aim to determine the relationship between child care service quality and customer loyalty. Second, to assess the mediating effect on customer satisfaction on the relationship between service quality and loyalty using the SERVQUAL instrument in Ilala Municipality.
II. LITERATURE REVIEW

2.1. Childcare Services quality

Service quality is defined as the discrepancy between the user’s expectation and their perceptions (Gathoni, 2016). Parasuraman et al., (1994) defines service quality as “a measure of how well the service level delivered matches customer expectations. Specific perceptions of service dimensions are influenced by several factors including the quality of service received, product quality, price factors, situational and personal factors (Bakrie, et al., 2019).

Service Quality theory on this study draws on SERVQUAL dimensions, refers to RATER dimensions indicators i.e. reliability, assurance, tangibility, empathy, and responsiveness used to measure service attributes provided to children placed in childcare centres. Thus, the delivery and quality of this important consumer service have implications not only for direct consumers of this service such as working mothers but also for users of the service (i.e., children) as well as the society as a whole. Childcare quality is major aspect of essential service needed by working mothers and they are relying for accessible and reliable quality. It provides with variety of services including social and healthcare as well as early education (Hussin et al., 2019).

If the child care centre has remarkable performance in respect of the important service qualities, then it is very easy for them to win the approval and satisfaction of parents, thereby helping to boost competitiveness; if not, it is expected that working mothers will be dissatisfied, hence resulting in a decline or loss of competitiveness (Untaru et al., 2017).

2.2.1 Customer Loyalty

Customer loyalty defined in two distinct ways. First, loyalty is an attitude. Different feelings create an individual’s overall attachment to a product, service, or organization. These feelings define the individual’s degree of loyalty. The second definition of loyalty is behavioural. For example continuing to purchase services from the same supplier, increasing the scope of a relationship or the act of recommendation that is loyalty behavior (Iddrisu & Mensah, 2015).

Loyalty occurs if the customer is satisfied and has a close relationship with the company. Loyalty can be described as customers believing continuously that the organization’s product or service remains their best option (Nyarku et al., 2018). Customer loyalty is developed over a period of time from a consistent record of meeting, and sometimes exceeding customer expectation. Barkie, et al., 2019) claimed that, the first step to measure customer loyalty is to know the level of customer satisfaction. According to Untaru, (2018) satisfaction is a positive antecedent of customer loyalty and is the result and outcome of educational system.

Behavior of customer loyalty represents the actual of repurchasing of services that include more purchase of different products or services from the same company, recommend the company to others, and reflects the probability of long-term options for brands (Omar et al., 2009; Setiawan et al., 2017). Customer loyalty can be concluded as the behavior that is associated with customer satisfaction with the quality of service experienced for the period of time. The focus point of customer loyalty is based on the level of service quality offered for the period of time. Loyal customers or those who enjoy positive experiences with the service are more likely to become a stable base of satisfied customers (EL-refae, 2012). Loyalty works together with emotions, whereas customer loyalty is the outcome of exceeding expectations repeatedly and creating a constant positive emotional experience, physical characteristic-based satisfaction, and appreciation for the child care services gained. Untaru et al., (2019) stated that, loyal customers positively view child care centre, endorse the centre to others, and would engage in the repurchase.

2.2.2 Customer Satisfaction

Customer satisfaction refers to the extent to which customers are happy with the products and services provided by a business. Gaining high levels of customer satisfaction is very important to organizations because satisfied customers are most likely to be royal and to make repeat orders (Iddrisu & Mensah, 2015). Customer satisfaction is viewed as response of a customer with regard to their service experience and also viewed as a strong asset which benefit to gain global competitive advantage (Kobbekaduwa et al., 2019). Moreover, several studies generally define customer satisfaction and dissatisfaction as the customer’s judgment concerning a business’s success or failure in meeting expectations (Al-Azzam, 2015). In organization such as childcare , the main element of customer satisfaction is the nature of the relationship among customers and suppliers of product or services (Al-Azzam, 2015; Untaru et al., 2019). Thus, service quality and product are usually observed as an important factor for retaining customer satisfaction.

2.2.3 Service Quality in Relation to Child Care Service Satisfaction

In order to create customer satisfaction, it is necessary to meet the needs of working mothers. Albarq (2013) further illustrated that customer satisfaction and service quality are intertwined. Some believe that customer satisfaction leads to perceived service quality, while others believe that high levels of service quality lead to customer satisfaction.

Customer satisfaction is among the critical issue in the success of any business system. Satisfaction or dissatisfaction depends on whether the services offered meet the customers’ standards and is determined by the fulfillment of needs (Kaura et al., 2015; Ling, et al., 2019). Working mothers’ satisfaction has a positive impact on child care service retention. Thus, in order to create working mothers satisfaction and loyalty to childcare centre, it is necessary to meet the needs of working mothers. Customer satisfaction is the feeling that is generated from an evaluation process of what has been received, expected, including purchasing decision as well as needs and...
wants related to that decision (Ongo, 2018). Zeithaml, (2017) state that, satisfaction in customer evaluation of services in terms of positive and effective is achieved through the evaluation of many aspects including their expectation and how the service delivered meet that expectation.

Service quality is among the factors that determine and contribute positively to the realization of customer satisfaction and customer loyalty (Ling et al., 2018; Luppi, et al., 2016). In the present study, relationship development covers SERVQUAL and loyalty is mediated by customer satisfaction. Working mothers perceived service quality is a general attitude that relates to the superiority of the service provided, whereas satisfaction denotes a specific transaction (Kumar, 2017). Customer satisfaction has commonly been described as the leading determinant of loyalty (Kurniawan et al., 2019; Heri, 2017; Setiwan et al., 2017) argued that customer satisfaction is significantly positively related to customer loyalty. Mestrovic (2017) Investigated students’ perceived service quality on satisfaction and behavioural intentions of STEM and IC in higher education institutions in Croatia. 480 questionnaires were collected and the data analyzed through PLS-SEM through smart PLS 3.0 software. The results indicated that higher education service quality was imperative for the higher education sector.

2.2.3 Customer satisfaction on the relationship between service quality and loyalty

Chandra et al., (2018), Kaura et al., (2015); Untaru et al., (2019) indicated that, customer loyalty is partially improved by satisfaction as one of the most influential factors. Studies confirm that contented clients have more possibility to repurchase and communicate positively toward an organization (Magasi, 2016). Customers tend to mention a bad customer service experience to twice as many people as compared with sharing a superior service experience. Satisfying more consumer expectations during a service generates a higher repurchase probability for child care (Amaechi, 2014; Hasdiansa., et al., 2018). High switching barriers or the absence of real alternatives may influence customer loyalty. Customer satisfaction may also cause customer loyalty; thus, customers would want to continue with the relationship (Mokhtar & Maiyaki, 2011). Customer satisfaction is a direct determining factor in customer loyalty, which is a central determinant of customer retention (Chi & Quan, 2013). Customer satisfaction is considered to serve as a bridge between service quality and customer loyalty and therefore, it has an indirect effect on loyalty (Yildiz & Duyan, 2018). Among the two exogenous latent constructs examined, customer satisfaction accounted for the largest variation in customer loyalty. This supports other literature showing that customer satisfaction is a leading factor in determining customer loyalty (Joudeh et al., 2018; Kobpekuduwa et al., 2019). Kumar, (2017) argued that customer satisfaction is the only immediate antecedent of customer loyalty. It implies therefore that the more satisfied a customer is with the services of child care centres the more likely the customer would be loyal. Such evaluations give rise to feelings of customer satisfaction. It is revealed therefore that customer satisfaction is more important than service quality perception in gaining customer loyalty. Nonetheless, the significant contribution of service quality perception confirms that satisfying customers is an important element in marketing as customer satisfaction affects future repurchase behavior (Kaura et al., 2015). Consequently this study aimed to:

i. To determine the relationship between working mothers’ perception of child care service quality and customer loyalty in Ilala Municipality

ii. To assess the mediating effect on customer satisfaction on the relationship between working mother’s service quality and loyalty in Ilala Municipality

2.4 Conceptual Framework

The conceptual framework of study Figure 1 indicates customer (working mothers) loyalty as a dependent variable, service quality through SERVQUAL quality dimensions (Working mothers’ service quality perceptions) as independent variables and customer satisfaction (working mothers’ satisfaction on child care service) as mediation variable.

Figure 1: Conceptual framework of the study
Hypotheses development

H1: There is a positive relationship between working mothers’ perception of child care services quality on working mother customer satisfaction in Ilala Municipal.

H2: There is a positive relationship between working mothers’ perception of child care services quality on customer loyalty in Ilala Municipal.

This hypothesis is also referred to as the main effects of structural relationships in the higher-order.

H3: There is a positive relationship between child care centres service quality and customer loyalty when mediated by customer satisfaction in Ilala Municipal.

H4: There is a positive relationship between child care service customer satisfaction and customer loyalty in Ilala Municipal.

The hypotheses were tested based on a significant level of 0.05

III. METHODOLOGY

The study used a questionnaire survey to collect information from working mothers. The questionnaire was developed from the SERVQUAL model, developed by Parasuraman et al., (1988). The researcher used a questionnaire based on its capability to collect information from a big number of people in a short period. The quantitative analysis was conducted using the statistical analysis known as PLS-SEM. Out of the 683 questionnaires distributed, 411 of them were completed and collected by the researcher. This number illustrates a response rate of 61%, this rate is consistent with the one suggested by Bernard (2013) who achieved a response rate of 60 percent.

The partial least squares structural equation modeling (PLS-SEM) approach was used to evaluate the measurement model of working mothers’ perceptions on the quality of childcare services latent construct due to its superiority in handling reflective and formative models compared to covariance-based structural equation modeling. Also, PLS-SEM is a nonparametric method with no data distributional assumption. Therefore, bootstrapping was employed to determine standard errors of the coefficient estimate to evaluate the coefficient’s statistical significance without relying on a distributional assumption (Hair et al., 2017). The repeated indicators approach is considered more powerful than alternative approaches such as two-stage approach and hybrid approaches when the number of items of the first-order constructs is unequal (Becker, et al., 2012).

IV. STUDY FINDINGS

4.1 Demographic profiles

411 respondents who were included in the study analysis.

Family background measures

Analysis of the sample indicated that the majority of the respondents were married, (64.2 %), whereas (17 %) were divorced. Analysis showed that the majority of working mothers were secondary education holders and above (95.9 %). Half of the respondents had degrees and postgraduate education levels. Followed by diploma holder, certificate holder, secondary education holders, and Lastly primary education. Only minority of respondents were having primary education (4.1 %). Percentage of distribution by education level. As regards to working mother’s number of children, the analysis of the sample indicates the dominance of mothers with one to three children (88.2 %). Only very few working mothers have 5 and above children (1.9 %). From a total of 411 respondents, 60.1 % were employed in private companies or self-employed (14.6 %) whereas (5.4 %) were local government Central government employees. From 411 respondents, 57.2 % working mothers had an income of two million Tanzania Shillings and above. The most characteristics of respondents’ distribution by income level per month of the sample were relatively comparable in proportional, except for level between 2,000,001 and 2,500,000. 154 respondents had disproportionately level of income as compared to the rest.

4.2 Measurement model Reliability

Indicator reliability

In the current study, the scales were adapted from studies on child care service quality attributes in secondary education settings. The scales were not tested beforehand in the context of the child care service quality environment, which means that some measurement indicators may not fit across all the contexts.

Thus, to minimize the errors in measurement models and enhance the precision and validity of the scales and exploratory power of the developed model, a conservative value of 0.70 were used as the threshold value (Riel et al., 2017). Nonetheless, before removal the potential relevance of indicators with loadings lower than 0.70 was meticulously investigated or removed. Indicator reliability was evaluated through the factor loading estimates (Kock, 2015). As factor loading estimates were standardized in PLS-SEM, the squared factor loading estimate equals the estimated indicator reliability (Ringle et al., 2015).

Based on the 0.70 rule of thumb for the removal of reflective indicators (Riel et al., 2017, Ringle and Sarstedt, 2016), an iterative assessment of outer loadings was conducted using Smart PLS 3.2.8 software, and those items with the loading of less than 0.70 were removed in sequence after each run. Thereafter the remaining indicators were entered again and the same procedure was applied. This process was carried out iteratively until no indicator with loading below 0.7 was found. The indicators (31 indicators) retained are listed in Table 4.7 and Figure 4.2. Moreover, In Table 4.7, column 4, all weight and composite loading estimates show
the expected sign and are significant at a 5% significance level. Figure 4.1 shows the indicators used to evaluate the measurement models (34 indicators).

**Composite reliability**

Composite Reliability (CR) was evaluated to assess the Latent construct indicators' internal consistency reliability (Henseler, 2018, Ringle et al., 2015). CR indicated how well constructs in the measurement model are described by the items. Chin (2014), Hair, et al., and Ringle et al. (2018) suggests a cut off of 0.7 and that all measurement latent constructs CR values in the model are above 0.70, this number was considered well described by the items.

**Results from Collinearity Test**

To ensure that multicollinearity did not pose a problem to the current study results, the PLS-SEM algorithm was conducted. To ensure the absence of multicollinearity, some scholars (Hair et al., 2017, Wong, 2013) suggest VIF not more than 5.

As measurement models are typically estimated by Mode B (regression weights) in PLS-SEM, collinearity among items forming an emergent variable was investigated employing the variance inflation factor (VIF), as high multicollinearity causes insignificant estimates and unexpected signs of the weights. Table 1 shows that the VIF values for the indicators of the composite models range from 1.2 to 2.18, suggesting that multicollinearity is not an issue in our empirical data.

**Convergent validity**

The convergent validity of measurement models was evaluated based on the average variance extracted (AVE) (Hair, et al., 2014) (see Table, column 7). The AVE values produced by Smart PLS 3.2.8 software were well above (range from 0.58 to 0.62) the required minimum level of 0.5 (Hair, et al., 2015, Henseler et al., 2016). Hence, the measures of reflective constructs have high levels of convergent validity. When the AVE is greater than .50 (Henseler and Sarslde, 2013), the variance shared with a construct, and its measures are greater than error. This level was achieved for all model constructs (see Table 1.). Convergent validity showed with Average Variance Extracted (AVE) higher than 0.5. Therefore, all the loadings can be accepted.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>SAT_2</th>
<th>SAT_3</th>
<th>SAT_4</th>
<th>SAT_5</th>
<th>QUAL_1</th>
<th>QUAL_2</th>
<th>QUAL_3</th>
<th>QUAL_4</th>
<th>QUAL_5</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIF</td>
<td>1.77</td>
<td>2.02</td>
<td>1.73</td>
<td>2.07</td>
<td>1.62</td>
<td>1.64</td>
<td>1.83</td>
<td>1.59</td>
<td>1.83</td>
</tr>
<tr>
<td>AVE</td>
<td>0.76*</td>
<td>0.77*</td>
<td>0.73*</td>
<td>0.78*</td>
<td>0.77*</td>
<td>0.77*</td>
<td>0.77*</td>
<td>0.77*</td>
<td>0.77*</td>
</tr>
</tbody>
</table>

Table 1: Measurement model assessment

<table>
<thead>
<tr>
<th>Table 2: Discriminant validity according to the Fornell-Larcker Criterion.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latent constructs</td>
</tr>
<tr>
<td>1. Assurance</td>
</tr>
<tr>
<td>2. Customer Loyalty</td>
</tr>
<tr>
<td>3. Customer Satisfaction</td>
</tr>
<tr>
<td>4. Empathy</td>
</tr>
<tr>
<td>5. Reliability</td>
</tr>
<tr>
<td>6. Responsiveness</td>
</tr>
<tr>
<td>7. Service Quality</td>
</tr>
<tr>
<td>8. Tangibility</td>
</tr>
</tbody>
</table>

Note: *p < 0.05

**Discriminant validity**

Discriminant validity entails that two latent variables that are meant to represent two different theoretical concepts are statistically sufficiently different (Hamid et al., 2017, Hair et al., 2012). To obtain empirical evidence for discriminant validity, the Fornell-Lacker criterion, and HTMT criterion measured.

**Fornell-Larcker criterion**

The second procedure to determine the discriminant validity was the Fornell-Larcker criterion, in which the square root of AVE of each of the Latent Constructs must be higher than its correlation with other latent constructs (Hair et al., 2017). Employing this procedure, the researcher has confirmed that the square root of AVE of the latent construct was higher than its correlation with other latent constructs as demonstrated in Table 2.

It was at a satisfactory level because the square root of the AVE from the constructs (0.759, 0.766, 0.771, 0.765, and 0.830) was greater than the correlation shared between the latent construct and other latent constructs in the model (See Table 2).
HTMT criterion

Hair et al., (2017) have recommended the evaluation of the correlations “heterotrait monotrait ratio (HTMT) to determine the discriminant validity in PLS-SEM.

In this study researcher considered the HTMT, Henseller et al., (2015) suggested the HTMT should be lower 0.90 (more lenient threshold) or significantly smaller than 1. Our result, the HTMT of all latent constructs’ relationships, and were below the recommended threshold of 0.90 (See Table 3). Moreover, the one-sided 95% percentile confidence interval of HTMT does not cover 1, that is, it is significantly different from 1. Hence, the researcher followed Hair et al., (2017) suggestion to test whether the HTMT is significantly smaller than 0.90.

As indicated in Table 3, all latent constructs in the estimated model fulfilled the condition of discriminant validity for the study PLS-SEM Model. Since none of the off-diagonal elements exceeded the respective diagonal element, discriminant validity was achieved. Latent Constructs may be considered to have adequate discriminant validity if the square root of the AVE for each construct was greater than the correlation between the latent construct and any other latent construct in the model (Hair et al., 2017, Riel, et al., 2017)).

Coefficient of Determination (R²)

The results of the PLS-SEM algorithm are shown in Table 4 and show that the R² values for all endogenous latent constructs were significant (p<0.05). Table 4 indicates that the exploratory power of the structural model was statistically significant. Hair, et al., (2019) recommended that the R² value should be more than 0.1 as a rule of thumb. All the R² values in this structural model were above 10% indicating that 10% or more of variance in endogenous variables was accounted for by the exogenous variables. These results suggest that all the hypothesized relationships in the model were informative. The R² values were 0.234, 0.415, and 0.306 which suggest that the model variables can explain 23.4%, 41.5%, and 30.6% for Customer Loyalty, Customer Satisfaction, and Service Quality respectively. The variance explained was more for customer satisfaction than loyalty and service quality. Thus, working mother satisfaction with the service quality of daycare had a much stronger link with child care service quality (R² = 0.415).

It is imperative to note that selecting a model based on the R² value was not a safe approach (Hair et al., 2017) because adding or omitting non-significant constructs to explain an endogenous latent construct in the structural model would probably fluctuate its R² value. In the next section, the structural model was assessed by exploring the change in R² values to see if the influence of a particular independent (exogenous) construct on a dependent (endogenous) construct had a large impact (Chin, 2010).

Collinearity Evaluation

Data was imported from IBM SPSS Statistics software to Smart PLS 3.2.8 run multiple regressions with a set of exogenous latent constructs as independent variables and any other latent construct endogenous as the dependent variable (Ringle et al., 2016). The high correlations are normally not anticipated between the items of formative measurement models. The high correlations of formative indicators are considered problematic (Henseler, 2017; Ringle et al., 2017). The researcher examined the collinearity.

The results for evaluating collinearity issues were the variance inflated factor (VIF) values. The following sets of predictor constructs for collinearity were assessed: (i) tangibility, assurance, empathy, reliability, and responsiveness as predictors of service quality; (ii) service quality and customer satisfaction as predictors of customer loyalty. The results of this test was shown in Table representing all the VIF values and mean VIF values were below the suggested threshold levels (lower than 3.5) (Hair et al., 2017, Henseler et al., 2015) and therefore collinearity among the exogenous latent constructs was not a problem in the structural model.

Table 3: HTMT Discriminant validity

<table>
<thead>
<tr>
<th>Latent construct</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assurance</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Loyalty</td>
<td>0.83</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>0.55</td>
<td>0.55</td>
<td>0.55</td>
<td>0.55</td>
<td>0.55</td>
<td>0.55</td>
<td>0.55</td>
<td>0.55</td>
</tr>
<tr>
<td>Empathy</td>
<td>0.82</td>
<td>0.82</td>
<td>0.82</td>
<td>0.82</td>
<td>0.82</td>
<td>0.82</td>
<td>0.82</td>
<td>0.82</td>
</tr>
<tr>
<td>Reliability</td>
<td>0.15</td>
<td>0.15</td>
<td>0.15</td>
<td>0.15</td>
<td>0.15</td>
<td>0.15</td>
<td>0.15</td>
<td>0.15</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>0.69</td>
<td>0.69</td>
<td>0.69</td>
<td>0.69</td>
<td>0.69</td>
<td>0.69</td>
<td>0.69</td>
<td>0.69</td>
</tr>
<tr>
<td>Service Quality</td>
<td>0.41</td>
<td>0.41</td>
<td>0.41</td>
<td>0.41</td>
<td>0.41</td>
<td>0.41</td>
<td>0.41</td>
<td>0.41</td>
</tr>
<tr>
<td>Tangibility</td>
<td>0.64</td>
<td>0.64</td>
<td>0.64</td>
<td>0.64</td>
<td>0.64</td>
<td>0.64</td>
<td>0.64</td>
<td>0.64</td>
</tr>
</tbody>
</table>

4.3 Structural Model

After an assessment of the measurement models. This section now focuses on the results of the structural model assessment in six values that represents the underlying concept of the path model which includes: collinearity evaluation, coefficient of determination (R² value), effect size R², blindfolding and predictive relevance Q², and structural model path coefficients.

Table 4: Results of PLS bootstrapping for the significance of R²

<table>
<thead>
<tr>
<th>Endogenous constructs</th>
<th>R Square</th>
<th>R Square Adjusted</th>
<th>Significance Level</th>
<th>Confidence Interval bias corrected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Loyalty</td>
<td>0.234</td>
<td>0.23</td>
<td>0.002</td>
<td>0.117</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.393</td>
</tr>
</tbody>
</table>
Effect Size $f^2$

The result of the PLS-SEM algorithm for the significance of $f^2$ demonstrates that of the 5 predictors of service quality (QUAL), the effect size of the tangibility (0.196) was much higher than the other predictors. The effect size of empathy, assurance, reliability, and responsiveness on service quality (QUAL) was small and significant. The results in Table 5 show that the effect size of service quality on customer satisfaction (0.935) was much overall higher than the other exogenous latent constructs.

Table 5: Results of effect size ($f^2$) analysis

<table>
<thead>
<tr>
<th>Endogenous latent Construct</th>
<th>Exogenous latent constructs</th>
<th>$f^2$</th>
<th>P-Value</th>
<th>Inference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Satisfaction</td>
<td>Service quality</td>
<td>0.935</td>
<td>0.022</td>
<td>Large effect</td>
</tr>
<tr>
<td>Customer loyalty</td>
<td>Service quality</td>
<td>0.052</td>
<td>0.04</td>
<td>Large effect</td>
</tr>
<tr>
<td>Customer loyalty</td>
<td>Customer Satisfaction</td>
<td>0.055</td>
<td>0.03</td>
<td>Small effect</td>
</tr>
</tbody>
</table>

Despite, some of the exogenous latent constructs individually had a little effect on predicting the endogenous latent constructs, the results of the PLS-SEM algorithm for all the $R^2$ indicated that the model explained more than 30.6% the variance in the endogenous latent construct (service quality) and customer satisfaction 41.5% were quite well.

Blindfolding and Predictive Relevance $Q^2$

According to Chin et al. (2010), Hair et al., (2015), Ringle et al., (2018) for predictive relevance, the predictive sample reuse technique ($Q^2$) can be used as a criterion. The $Q^2$ evaluates the predictive validity through the blindfolding procedure in which data was omitted for a given block of indicators and then the omitted part was predicted based on the calculated parameters. Therefore, $Q^2$ depicted how well the empirically collected data could be reconstructed with the help of the model and the parameters of PLS-SEM (Hair et al., 2017). Hair et al., (2017), Ringle, et al., (2017) suggested that the model has predictive relevance when $Q^2$ is greater than 0 whereas the model lacked predictive relevance when $Q^2$ was less than 0.

The results in Table 6 demonstrated the $Q^2$ values (along with the $R^2$ values) of all the endogenous latent constructs. All the $Q^2$ values were above zero and therefore supported the models in- sample has predictive relevance regarding the endogenous latent constructs.

Table 6: Results of Predictive relevance ($Q^2$)

<table>
<thead>
<tr>
<th>Endogenous latent Construct</th>
<th>$Q^2$</th>
<th>Inference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service quality</td>
<td>0.171</td>
<td>Predictive relevance</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>0.244</td>
<td>Predictive relevance</td>
</tr>
<tr>
<td>Customer loyalty</td>
<td>0.125</td>
<td>Predictive relevance</td>
</tr>
</tbody>
</table>

Structural Model Path Coefficients its significance and relevance of latent constructs

The purpose of this section was to describe the Structural Equation Modeling (SEM) techniques used to test the study’s hypotheses and to report the results of the hypotheses tests. The significance of the weight of each latent constructs revealed the relative importance and the loading represented the absolute importance that is determined using bootstrapping.

The validity of the structural model was confirmed, the next step was to evaluate the path of the proposed structural model. Exhibits the second repeated indicators structural model and the analytical results are depicted. Each path corresponds to each proposed hypothesis in this study. The test of each hypothesis was achieved by looking at the sign, size, and statistical significance of the path coefficient (b) between the exogenous latent construct and its endogenous latent constructs. Hence, the hypothesized relationships were examined against various coefficients and scores obtained from the analysis. In this study the hypotheses were tested based on the direction, the strength of the standardized paths beta coefficient ($\beta$), the T-statistic (t-value), significance level (p-value), and Bias corrected confidence interval. The higher the path coefficient, the stronger the effect of latent constructs on the endogenous latent construct. Almost all the proposed relationships show significance at $p<0.05$. The significance of the path coefficients was evaluated using the bootstrapping function of Smart PLS 3.2.8 with 500 sub-sample (the default value). Table 7 shows the proposed hypothesis and its results, whether supported or not. In Figure., the comparison of standardized path coefficients suggested that reliability of service quality was the most important indicator of customer satisfaction followed by the responsiveness and tangibility aspects of service quality.

4.4 Hypotheses Testing

Table 7: Structural model results for main relationships and mediation models

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Relationship</th>
<th>Path coefficient</th>
<th>t value</th>
<th>p Value</th>
<th>Confidence interval</th>
<th>Bias corrected</th>
<th>Resul ts</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_1$</td>
<td>Service Quality -&gt; Customer satisfaction</td>
<td>0.6 97</td>
<td>19.1 43</td>
<td>0.0 00</td>
<td>0.601 0.7 53</td>
<td>Supported</td>
<td></td>
</tr>
</tbody>
</table>
Mediation Models

The key substantive focus in the structural model with interaction effects is on understanding the way proposed relationship dynamic works (For example at different levels of the mediator). The aggregate analysis using bootstrapping revealed that the effect of the mediator was small but significant. Therefore, this section explored the effect of the mediator at different values of exogenous and endogenous latent constructs in the structural model.

To test organizational culture mediating effects, we followed the procedure developed by Nitzl et al., (2016) to test mediation effects on PLS path modeling. The procedure considers five basic items as follows (See Figure 3):

i) Testing the indirect effect an x b; ii) determining the strength of the indirect effect a x b; iii) d determining a significant indirect effect a x b; iv) conduct a bootstrap to test the significance of the indirect effect a x b, and to determine the significance of the direct effect c’ and c to examine the type of effect or mediation.

The value of the VAF must be in the range between 20% and 80% (Valdez-Juárez et al., 2019). This evidenced that our strategic planning -organizational environments and effectiveness research model reaches a partial mediation of complementary type because the value of a x b and c’ have the same positive sign and same direction, but also, the value of the VAF is within the parameters of partial mediation (Hair et al., 2017). The following formula illustrates how the VAF was calculated:

\[
VAF = \frac{indirect\ effect(ab)}{total\ effect(a.b+c')}
\]

According to Hair et al., (2019), the following conditions of mediations is given as cut-off, to evaluate how much of direct path is absorbed, variation accounted for (VAF) is calculated:

(i) If 0 < VAF < 0.20, then No Mediation
(ii) if 0.20 < VAF
(iii) If VAF > 0.80, then Full Mediation

It follows that:

\[
VAF = \frac{0.697 \times 0.281}{0.697 \times 0.281 + 0.271} = \frac{0.195857}{0.471} = 0.41
\]

From Table 8 it is clear that indicates that customer satisfaction partially mediates the relationship between Child care and organization effectiveness. A VAF value shows that 41% of the total effect of an exogenous construct (Child care service quality) on to customer loyalty was explained by indirect effect (customer satisfaction). Because the VAF is greater than 20%, but less than 80% suggested by Hair et al., (2018), therefore the results can be ranked as partial mediation(Hair et al., 2019). Thus, the effect of child care service quality customer loyalty was partially mediated through the organizational environment. Results showed a complementary partial mediation relationship because the product of indirect and direct effect was positive. This finding provides empirical support for the mediating role of customer satisfaction in the model, therefore H2 was supported. More specifically, the organizational environment represents a mechanism that underlies the relationship between child care service quality and Customer Loyalty.

![Figure 2: Total effect bootstrapping of Child care service on Customer loyalty](image)
Figure 3: Simple general mediation (Customer satisfaction) model significant test

Table 8: Simple mediation effects test for customer satisfaction

<table>
<thead>
<tr>
<th>Path</th>
<th>Coefficient</th>
<th>t-values</th>
<th>P-value</th>
<th>VAF= ( \frac{a \times b}{(a + b)^2} )</th>
<th>Magnitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>0.271</td>
<td>3.842</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H7: c'</td>
<td>0.697</td>
<td>19.143</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>0.281</td>
<td>3.824</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indirect effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H8: a x b via customer satisfaction</td>
<td>0.196</td>
<td>3.679</td>
<td>0.000</td>
<td>41% partial mediation</td>
<td></td>
</tr>
<tr>
<td>Total indirect effect</td>
<td>0.196</td>
<td>3.679</td>
<td>0.000</td>
<td>41% partial mediation</td>
<td></td>
</tr>
<tr>
<td>Total effect</td>
<td>0.471</td>
<td>10.361</td>
<td>0.000</td>
<td>41% partial mediation</td>
<td></td>
</tr>
</tbody>
</table>

V. DISCUSSION

The Relationship between Child Care Service Quality and Customer Satisfaction

Child care service quality found to have a significant and positive effect on customer satisfaction lending to construct the first hypothesis (H1). Childcare practitioners should ensure child care services meet the expectation to maintain or enhance their customer satisfaction to the childcare centres. The relationship between child care service quality and customer satisfaction was very strong (\( \beta = 0.697; \) t-values=19.143, P=0.000) thus child care service becomes an important tool in developing customer satisfaction.

The findings of this study are consistent with other studies in service quality theory such as Dahari and Ya, (2011); Setiawan and Sayuti (2017), Incensu and Asikgil (2012); Hussin et al.,(2019); which found the relationship between service quality and customer satisfaction was much stronger than between perceived quality dimensions and service quality. Also, Untaru et al., (2017), Amaechi (2014) confirm the direct relationship between the level of service quality and customer satisfaction in the education sector. If perceived service quality exceeds customer expectation, their devotion, belief and retention will increase (Parasuraman et al., 1994). Thus, perceptions of working mothers is based on what they received from the service encounter. This implies that perception of service quality has a direct bearing on the end result of customer satisfaction.

The Relationship between Child Care Service Quality and Customer Loyalty

The test results supported hypothesis (H2). This involves the second-order latent construct which was child care loyalty constructed by relating it to the second-order latent construct which was child care service quality. It was observed that child care loyalty significantly affected by child care service quality. Lastly, researchers have also found child care service quality has a strong and significant influence on customer loyalty that congruent with the previous service quality theory studies (Albarq, 2013). The study by Kobbekaduwa et al., (2019) noted that five SERVQUAL dimensions to be important determinants of satisfaction which would impact customer loyalty in terms of repurchase of goods and service. Further, the study noted providing service quality at the level which satisfies the customer will help the organization to retain customers. The finding further is in line with the study results of Omari et al.,2010; Untaru et al.,(2017) which also found that there was a positive association between service quality and customer loyalty. Thus, maintaining the satisfaction and loyalty of their clients was in long run essential for business sustainability.

The Relationship between Child Care Service Quality, Customer Satisfaction and Customer Loyalty

The test results supported hypothesis (H3). This involves the second-order latent construct which was child care loyalty constructed by relating it to the second-order latent construct
which was child care service quality. It was observed that child care loyalty significantly affected by child care service quality when mediated by child care satisfaction. The results indicated partial mediation effect child care service had a direct significant effect on child care loyalty and also indirect effect while linked with child care satisfaction. That those two elements are important in predicting child care loyalty from working mother perception. The hierarchal path analysis for the service quality and child care satisfaction indicates that the two constructs are significant in predicting child care loyalty.

The relationship between the beta coefficients between latent variables represents the important latent construct in terms of influencing child care loyalty. It concurred with the findings by Amaechi (2014), that the relationship between service quality and loyalty was significant and strong when mediated with customer satisfaction. The findings also are in line with results of studies Fares et al.,(2013);Hasdiana et al.,(2016); Kumar (2017); Zeithaml, et al., (2018);high-quality service leads to customer satisfaction and other behaviours such as loyalty, greater willingness to make a recommendation to someone else, reduction in complaints and an improved customer retention rate.

The Relationship between Child Care customer satisfaction and child care Customer Loyalty

Child care satisfaction found to have a significant and positive effect on child care loyalty lending to construct with the fourth hypothesis (H₄). Childcare practitioners should ensure working mothers' satisfaction with child care services to build loyalty to the childcare centers. The relationship between child care customer satisfaction and child care loyalty was very strong (β =0.267; t-values=3.824, P=0.000) thus child care satisfaction becomes an important tool in developing customer loyalty. The findings of this study are consistent with Amaechi (2014); Joudeh and Dandis (2018), Kobbekaduwa et al., (2019); Setiawan & Sayuti,( 2017), their results suggest that the relationship between customer satisfaction and customer loyalty is much stronger. Deng et al., 2009;Kishada & Wahab (2015) found that customer loyalty is not only the ultimate object of customer satisfaction measured but also a key determinant of a firm’s long term viability. As suggested by Fornell ,the higher the level of satisfaction, the greater the customer loyalty level.

VI. CONCLUSION

The findings of the study concluded that, service quality both influence customer satisfaction and customer loyalty, even when the effects of all constructs are considered simultaneously. Morover long term working mothers’ satisfaction with child care service found to have significant and positive effect on childcare loyalty. It was further concluded that, working mothers’ loyalty to the child care centre was significantly affected by their perception of service quality. Thus, as child care centres try to attain working mother loyalty they must improve all aspects of service quality as elaborated in SERVQUAL model.

VII. STUDY RECOMMENDATIONS

- Ministry of Community Development, Gender, and Children in Tanzania need to review and amend policies, laws, and regulations on childcare services to incorporate working mothers view of child care services, customer satisfaction and customer loyalty as per finding of the study
- Childcare owner managers need to enhance and maintain quality child care service delivery by providing worthy incentives to caregivers to achieve working mother perception of service quality and their satisfaction with child care service.
- Childcare centres need to show highpoint on the importance of courtesy and trust to gain high perceptions of service quality and satisfaction level and loyalty to care centres.
- Child care centres endeavor to improve all aspects of service quality as elaborated in SERVQUAL model to attain working mother loyalty on child care centres.

REFERENCES


Factors Influencing Parents Decision in Selecting Private Schools


