THE RELATIONSHIP BETWEEN EMPLOYEE AND CUSTOMER SATISFACTION IN THE BALANCED SCORECARD

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Abstract

This paper reports evidence of a direct relationship between employee satisfaction and customer satisfaction as they are linked in the balanced scorecard. The objective was to propose a framework that shows the linkage between employee satisfaction and customer satisfaction and to undertake some preliminary testing of this framework. An empirical study was undertaken in an airline business which investigated these relationships between employee and customer satisfaction and the correlations between these performance measures. The relationship between the key drivers of employee satisfaction and the key drivers of customer satisfaction was also investigated. The study provides empirical evidence supporting several linkages.

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1 Introduction

Collecting data from both employees and customers to measure performance in service businesses is not a new strategy. Over the past decade there has been increasing empirical evidence linking employee factors to customer factors (Schneider, Parkington & Buxton, 1980; Tornow & Wiley, 1990; Fitzgerald, Johnston, Brignall, Silvestro & Voss, 1993).

Studies conducted to find possible relationships between the employees of a business and the customers of that business have in general been concerned with either employee factors or customer factors. Despite consistent calls for more research to incorporate both types of factor, the number of studies that link customer satisfaction with employee satisfaction is still limited (Baker & Fesenmaier, 1997; Zeithaml, 2000).

Personal interaction between customers and employees, particularly in relation to service businesses, is receiving increasing attention (Bettencourt & Gwinner, 1996). The activities of employees within a service business connect the business with its customers (Gronroos, 1990). These activities are critical factors in developing effective working relationships with customers (Gwinner, Gremler & Bitner, 1998). Customers tend to demonstrate reactive behaviour influenced by the service provider and the quality of the service they receive. Management of customer and employee interactions in service businesses and the manner in which customers evaluate individual service businesses therefore play an important role (Bitner, 1990). Customers who are satisfied with the service they receive are likely to remain loyal to the business.

When analysing employee and customer relationships, it may be helpful to determine the specific issues and concerns that act as the key drivers of employee and customer satisfaction. Once such a relationship has been recognised, it is possible to set targets for measures corresponding to each key driver, based upon the strength of the driver's relationship with the satisfaction metric. Once the strength of the relationship between each relevant pair of employee–customer issues has been established, targets can be set for key drivers of employee satisfaction, based on the targets established for the key drivers of customer satisfaction.

1.1 Statement of the problem

Both employee satisfaction and customer satisfaction, respectively, have been extensively empirically tested (Heskett, Sasser & Schlesinger, 1997). The link between employee satisfaction and customer satisfaction in the balanced scorecard has recently been given more emphasis by researchers. Considerable evidence of such a link exists (Schneider, 1991; Organ & Ryan 1995; Heskett *et al*., 1997; Fosam, Grimsley & Wisher, 1998; Rucci, Kirn & Quinn, 1998; Bernhardt, Donthu & Kennett, 2000). This is also supported by the findings of Ronald, James and Frank (2005), who find generally positive and statistically significant relationships between employee satisfaction and customer satisfaction. Several studies have also proven that employee satisfaction is positively related to customer satisfaction (Wiley, 1996; Kilpatrick, 2000; Tofani, 2000). Bernhardt *et al*. (2000) claim that the relationship between customer satisfaction and employee satisfaction is one of the rare relationships in market research that do not appear to yield conflicting results, but other studies do not support this. Silvestro and Cross (2000) find no evidence of such a link in grocery retailing, and Loveman (1998) finds only a very weak indication of this link in banking. Schneider and Bowen (1985) fail to find a significant relationship between employees' general feelings of job satisfaction and customer satisfaction. The results from these two last studies are important in that they challenge the fundamental premise that there is a link between employee and customer satisfaction.

These arguments suggest a number of research questions, which this study attempts to address with regard to an airline business. These questions are as follows:

- Does employee satisfaction correlate with customer satisfaction?
- Is there a significant relationship between the drivers of customer satisfaction and the drivers of employee satisfaction?
- Are the key drivers of employee satisfaction and customer satisfaction factors influencing employee satisfaction and customer satisfaction?
- Is there any correlation between employee satisfaction and the key drivers of customer satisfaction; and between customer satisfaction and the key drivers of employee satisfaction?

The hypotheses derived from these research questions and tested in this study are the following:

H1: There is no significant relationship between measures of employee satisfaction and employee satisfaction.

H2: There is no significant relationship between measures of customer satisfaction and customer satisfaction.

H3: There is no significant correlation between employee satisfaction and customer satisfaction.

H4: There is no significant association between measures of employee satisfaction and measures of customer satisfaction.

H5: Measures of employee satisfaction and of customer satisfaction are not correlated.

H6: There is no significant association between employee satisfaction and measures of customer satisfaction.

1.2 Objectives

The objective of this article is to investigate relationships between employee satisfaction and customer satisfaction in an airline business. An airline business was chosen because, in the context that the study was performed, the satisfaction of customers of this airline was deemed to be significant in terms of its impact on the transportation of foreign visitors to a developing country. A measurement model (framework) was developed for the relationship between employee satisfaction and customer satisfaction in this airline business. The relationship between the key drivers of employee satisfaction and the key drivers of customer satisfaction was also investigated.

There are various measures of satisfaction. For this study of an airline business, the selected measures of employee satisfaction are economic factors, benefits, working environment and working conditions. Pre-flight, in-flight and post-

flight factors were selected as the measures of customer satisfaction. (See Appendices A and B). These questions are regarded as important for this study, because of the results of previous studies (Baker & Fesenmaier, 1997; Bernhardt *et al*., 2000).

The balanced scorecard is an ideal tool to indicate the relationships to be investigated, as they are represented in the balanced scorecards' customers and learning and growth perspectives.

The structure of this article is as follows: Section Two reviews the balanced scorecard and the relationships between customer and employee satisfaction. Section Three presents the methodology used for the empirical study, including the data collection procedure used in the study, information on the sample selection, research design, measuring instruments, data processing and analysis. Section Four outlines the results of the empirical investigation, and Section Five discusses these results. Section Six presents the conclusions, and Section Seven comments on the limitations of the findings and suggests new directions for future research.

2
Theoretical analysis

2.1 Balanced scorecard

The balanced scorecard as an analytical framework translates a business's vision(s) and high-level business strategies into specific, quantifiable goals. The methodology breaks high-level strategies down into objectives, targets, measures and initiatives, and then monitors performance against those goals.

Initially, the focus of the balanced scorecard approach was on developing performance measures to examine four unique but related perspectives: financial, customer, internal business processes and learning and growth (Kaplan & Norton, 1992). The argument is that learning is essential to improve internal business processes, improving business processes is necessary to improve customer satisfaction and improving customer satisfaction is necessary to improve financial results (Garrison & Noreen, 2005). The balanced scorecard approach gradually developed into a strategic management system (Kaplan & Norton, 1996; Garrison & Noreen, 2005) oriented towards describing the process for transforming intangible assets into tangible customer and financial outcomes. This system provides a framework for describing and managing strategy (Kaplan & Norton, 2001; Horngren, Bhimani, Datar & Foster, 2002; Drury, 2005).

The significance of performance measures lies in the fact that, if strategies and their supporting actions are to be successful, the performance of these actions and their contributions against strategic outcomes must be measured. The types of performance measures selected should vary according to structural level. The higher up the level of management in the business, the more important financial measures become. Moving down to the functional and operational areas, the emphasis should shift from financial to more operationally focused measures.

Each measure of the balanced scorecard is embedded in a chain of cause and effect logic that connects the desired outcomes from the strategy with the drivers that will lead to strategic outcomes (Kaplan & Norton, 2001). Thus every measure selected for the balanced scorecard should be an element in a chain of cause and effect relationships that communicates the meaning of the particular business unit's strategy to the business (Kaplan & Norton, 1996).

The balanced scorecard translates the often rather vague goals found in corporate mission statements into a strategic roadmap that employees can follow. Because it details specific actions, and outlines the cause and effect relationships between these actions and key financial objectives, a balanced scorecard serves not only as a performance measurement system, but also as a means of communicating long-term strategic initiatives to business units and achieving long-term financial success. It combines important practices and concepts from various disciplines and theories into a single performance measurement system for the purpose of improving financial performance.

The balanced scorecard can thus be used as a tool for translating strategy into performance measures that employees can understand and put into action.

2.2 Relationships between employee and customer perspectives

The learning and growth perspective of the balanced scorecard has long been considered its weakest link (Drury, 2005). This was confirmed by an empirical study where Kaplan and Norton (2004) attempted to measure the strategic readiness of intangible assets. They found that, according to most managers in their study, this perspective is the "black hole" or the area most in need of improvement in their balanced scorecard. A third of the users of the balanced scorecard do not have a learning and growth perspective (Speckbacher, 2003). Some of these companies try to plug this gap either with human resources-related measures such as staff training or by attempting to address absenteeism (particularly in the engineering and technology sectors) through innovation measures such as research and development. Several practitioners have abandoned this perspective altogether and have simply labelled it the employee or people perspective (Marr, Carlucci & Schiuma, 2004). Nevertheless, during this study the observation has been that few businesses can easily work out how to link this perspective with meaningful and strategically relevant performance measures.

Satisfied employees are more likely to engage in activities that assist customers (Locke & Latham, 1990; Weatherly & Tansik, 1993). There is some agreement that employee behaviour and attitude in critical moments of interaction with customers have a significant effect on customers' perception of the quality of service delivery (Schneider *et al*., 1980; Schneider & Bowen, 1985; Bitner, 1990). An empirical study by Schmit and Allscheid (1995) shows that it is impossible to maintain a satisfied and loyal customer base without satisfied and loyal employees. On the other hand, Crosby, Grisaffe and Marra (1994) point out that if employees are truly motivated by a desire to do quality work that meets customer needs, then achievement of that customer satisfaction outcome should contribute to the employees' own satisfaction as well. The positive climate of the business will thus be exposed to the customer through higher levels of employee satisfaction (Uhlrich, Halbrook, Meder, Stuchlik & Thorpe, 1991).

For many customers, the employees are the actual business (Barlow & Mail, 2000). The effects of these positive encounter cycles are shown in the positive correlations between employees and customer attitudes (Schneider *et al*., 1980; Schneider & Bowen, 1985).

In this study both the employee and customer are examined to investigate the impact of the two work climate variables of job satisfaction and subsequent customer perceptions of the service quality of employees.

3 Methodology

3.1 Data collection

Data were first collected from respondents by means of a personal letter addressed to employees and customers individually, requesting them to give their opinion about the business selected for this study. A letter explaining the purpose of the research and a self-addressed, stamped envelope accompanied the personal letter. Anonymity was assured, as no respondent was required to supply his or her name or other personal profiles.

A total of 240 letters, together with structured questionnaires and self-addressed envelopes were sent out (160 to customers and 80 to employees), requesting both the employees and the customers to complete the questionnaire. Of the 240 letters, 160 responses (110 from customers and 50 from employees) or 66.67 per cent were received. Of these, only 150 questionnaires (100 from customers and 50 from employees) were usable. According to Babbie (1973), a response rate of 60 per cent is good, but a response rate of 45-50 per cent is adequate for analysing and reporting. The response rate for this study was therefore more than satisfactory.

3.2 Sample selection

The study population was a simple random sample (n=50) of employees of the airline involved (N=400). Geographically, the region involved is divided into two parts, and 70 percent of the members belonged to the main region

and the rest belonged to the other region. Approximately 65 percent of the participants were male. 70 percent had worked at the airline for more than eight years, 26 percent between five and eight years; and four percent had worked there for less than five years.

A non-probability sample (n=100) of customers of the airline was selected. Of these, 64 percent were citizens and 71 percent were male. In terms of the frequency with which these respondents had flown on the airline, 72 percent of the participants had flown between one and five times, and 28 percent had flown more than five times.

3.3 Research design

A survey design was used to reach the research objectives. The specific design is a cross-sectional design, whereby a sample is drawn from a population at a given time (Shaughnessy & Zechmeister, 1997). This sample may also be used to assess interrelationships among variables within a population. This design is ideally suited to the descriptive and predictive purposes associated with correlation research .

3.4 Measuring instruments

Two separate questionnaires were used in the empirical study, namely an employee questionnaire (19 items), used to measure employee satisfaction, and a customer questionnaire (20 items), which measured customer satisfaction. The respondents were asked to rate each item in the questionnaire on a five-point Likert-type scale, ranging from 1 ("high satisfaction") to 5 ("low satisfaction"). A factor analysis was then conducted. A SPSS statistical software package (Daniel, 2003) was used to extract factors, using principal component analysis with a Varimax orthogonal rotation, which assumes that the factors are not related, and tends to be easy and clear to interpret (Tabachnick & Fidell, 1996).

The 19 items of the employee satisfaction scale and the 20 items of the customer satisfaction scale were subjected to separate analyses. Prior to performing principal component analysis, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients above the recommended value of 0.3 (Tabachnick & Fidell, 1996). The Kaiser-Meyer-Olkin values were 0.92 and 0.94 for the items of employee satisfaction measures and customer satisfaction measures respectively, exceeding the recommended value of 0.60 (Kaiser, 1974). Barlett's (1954) test of sphericity reached statistical significance ($p < 0.001$) for both scales, supporting the factorability of the data.

Cronbach's (1951) coefficient alpha is a measure of the internal consistency of a scale. A high alpha is desirable since it shows that the items are homogeneous and that they measure the same underlying property. If the inter-item correlations are high, then there is evidence that the items measure the same underlying construct. As a correlation, alpha ranges in value from 0 to 1. It can also be squared to identify the proportion of variance it shares with other items. Nunnally and Bernstein (1994) suggest that an alpha above 0.7 is acceptable.

Table 1
Cronbach alpha reliability scores

Factors (employee)	Items	Cronbach's α	% of variance
Economic factors	1-5	0.95	30.87%
Benefits	6-10	0.94	29.52%
Working environment	11-14	0.95	22.45%
Working conditions	15-19	0.96	11.22%
Factors (customer)			
Pre-flight	1-7	0.98	36.80%
In-flight	8-15	0.98	30.55%
Post-flight	16-20	0.94	27.02%

Four types of factor were extracted from the employees' questionnaire, namely economic factors (Items 1 to 5), benefits (Items 6 to 10), working environment (Items 11 to 14) and working conditions (Items 15 to 19). The alpha coefficients of the four factors were 0.95, 0.94, 0.95 and 0.96 respectively. All these values are acceptable ($\alpha > 0.70$, Nunnally & Bernstein, 1994), and thus indicate the internal consistency reliability of the questionnaire. The percentage of variance refers to the percentage of variance of the items constituting each factor, as explained by each factor. The four factors explained 30.87 percent, 29.52 percent, 22.45 percent and 11.22 percent of the variance respectively.

Three types of factor were extracted from the customer questionnaire, namely pre-flight (Items 1 to 7), in-flight (Items 8 to 15) and post-flight (Items 16 to 20). The alpha coefficients of these three factors were 0.98, 0.98 and 0.94 respectively. All these values are acceptable ($\alpha >$ 0.70), and thus indicate the internal consistency reliability of the questionnaire. The three factors explained 36.80 percent, 30.55 percent, and 27.02 percent of the variance respectively.

3.5 Data processing and analysis

The questionnaires returned by the respondents were inspected, edited, coded and analysed using appropriate Microsoft Excel and SPSS statistical software packages to determine:

- Cronbach's alpha coefficients, to indicate the internal consistency of the measuring instruments;
- descriptive statistics (skewness, kurtosis and variances) to analyse the normality of the data;
- the t-value and the adjusted R^2 of single and multiple regression to determine the proportion of variance in the dependent variable that is explained by the independent variables and the causality, if any, among them;
- correlation coefficients to investigate the relationship (association) among measures of satisfaction; and
- factor analysis to identify whether any sub-dimensions are operating within the groups of items, and to verify whether the selected items empirically form the scale as intended.

4 Results of the study

The data obtained from the questionnaire were used to construct the research model and to demonstrate the relationship between the dependent and independent variables. The dependent variables, employee satisfaction and customer satisfaction, were measured using items of each dimension, averaged into one single measurement.

4.1 Descriptive statistics

From Table 2 it is clear that the scores for the measuring instruments had a relatively normal distribution. All measures demonstrated low skewness and kurtosis, except that the measures of customer satisfaction showed a slightly higher

Table 2
Descriptive statistics of the questionnaire

Factors (customer)	Mean	S. D	Skewness	Kurtosis	Variance
Pre-flight	2.65	1.40	0.424	–1.048	1.947
In-flight	2.84	1.37	0.199	–1.114	1.873
Post-flight	2.39	1.23	0.376	–1.048	1.513
Factors (employee)					
Economic factors	2.58	1.30	0.609	–0.740	1.677
Benefits	2.24	1.29	0.907	–0.125	1.656
Working environment	2.40	1.28	0.477	–0.951	1.633
Working conditions	2.38	1.21	0.581	–0.590	1.465

negative kurtosis. It is also evident from Table 2 that an acceptable Cronbach alpha coefficient ($\alpha > 0.70$) was obtained for all the measures (Nunnally & Bernstein, 1994). This ensured the internal consistency of the measuring instruments. The summary of the descriptive statistics for the two types of satisfaction measures reveals that all the mean scores vary from 2.24 to 2.84, indicating that the respondents agreed to some extent with the statements made in the questionnaire. The standard deviation results indicate no large deviation of the values of these variables from the mean.

4.2 Inferential statistics

4.2.1 Correlation coefficients

The measures of the satisfaction of each domain were collected, and each was then tested against the rest in order to identify the associations among them. The minimum value of the correlation coefficient necessary to indicate significance was 0.81, given the small sample size (Morris, 1993).

Table 3
Results of correlation coefficients

	Customer satisfaction	Pre-flight	In-flight	Post-flight
Employee satisfaction	0.824**	0.809**	0.885**	0.835**
Economic factors	0.797	0.783	0.857**	0.863**
Benefits	0.787	0.762	0.913**	0.840**
Working environment	0.851**	0.836**	0.879**	0.850**
Working conditions	0.821**	0.798	0.874**	0.840**
** Correlation was significant at the 0.01 percent level (1-tailed).				

As depicted in Table 3, the in-flight measure of customer satisfaction was significant, correlating at the 0.01 percent level, with economic factors (r=0.857), benefits (r=0.913), working environment (r=0.879), and working conditions (r=0.874). The post-flight measure was also significant at the 0.01 percent level, with each measure of employee satisfaction being economic factors (r=0.863), benefits (r=0.840), working environment (r=0.850), and working conditions (r=0.840). However, the pre-flight measure of customer satisfaction was only significantly correlated with working environment (r=0.836).

There was also a strong positive correlation, again significant at the 99.9 percent level, between the employee satisfaction measure and each of the customer satisfaction measures, that is pre-flight (r=0.809), in-flight(r=0.885) and post-flight (r=0.835). The results, moreover, demonstrated a clear and highly significant relationship between employee satisfaction and customer satisfaction (r= 0.824), whereas only two of the four measures of employee satisfaction, namely working environment (r=0.851) and working conditions (r=0.821), produced significant correlations with customer satisfaction.

4.2.2 Single and multiple regression analysis

The regression results presented in Table 4 indicate that the level of the independent variables, employee satisfaction measures and customer satisfaction measures act as a factor of the dependent variables of employee satisfaction and customer satisfaction respectively. The results indicate a coefficient of determination of 0.969 and 0.965 for employee satisfaction and customer satisfaction respectively. This coefficient suggests that 96.9 percent of the variation in the employee satisfaction (the dependent variable) is explained by changes in the economic factors, benefits, working environment and working conditions (the independent variables). Furthermore, 96.5 percent of the variation in customer satisfaction (the dependent variable) is explained by changes in the measures for pre-flight, in-flight, and post-flight (the independent variables).

Table 4
Results of single and multiple regression analysis

Dependent variables	Independent variables	Regression coefficient	t-value	P-value	Adjusted R^2
Employee satisfaction	Economic factors	0.147	1.653	0.105	0.969
	Benefits	0.152	1.915	0.062	
	Working environment	0.250	2.313*	0.025	
	Working conditions	0.455	3.940***	0.001	
Customer satisfaction	Pre-flight	0.646	7.960***	0.001	0.965
	In-flight	0.261	3.802**	0.001	
	Post-flight	0.087	1.385	0.169	
Significant at *p < 0.05 **p < 0.025, ***p < 0.01					

When evaluating each of the independent variables, only two variables, namely working environment (beta = 0.25) and working conditions (beta = 0.455), make a statistically significant contribution to explaining the variability in employee satisfaction. Similarly, the pre-flight measures (beta = 0.646) and in-flight measures (beta = 0.261) are significant in explaining the variability in customer satisfaction.

5 Discussion

Regression tests were conducted between employee satisfaction and each of the employee satisfaction measures collected as part of the employee survey, with a view to identifying which of the particular aspects of employee satisfaction was linked to satisfaction. The results are reported in Table 4. Whilst there is no significant relationship between customer satisfaction and employee satisfaction with the economic factors (p-value = 0.105) and benefits (p-value = 0.062), there is a significant relationship with each of the remaining aspects, that is, working environment (p-value = 0.025) and working conditions (p-value < 0.001). Together the four factors explain 96.90 percent of the variation in employee satisfaction.

The relationships in Figure 1 demonstrate the two domains of employee satisfaction and customer satisfaction and the key variables within them that have been used in this study, which aimed to link employees and their customers in an airline business. Therefore, Figure 1 provides a framework that can be used to review where propositions have been tested and connections are empirically supported.

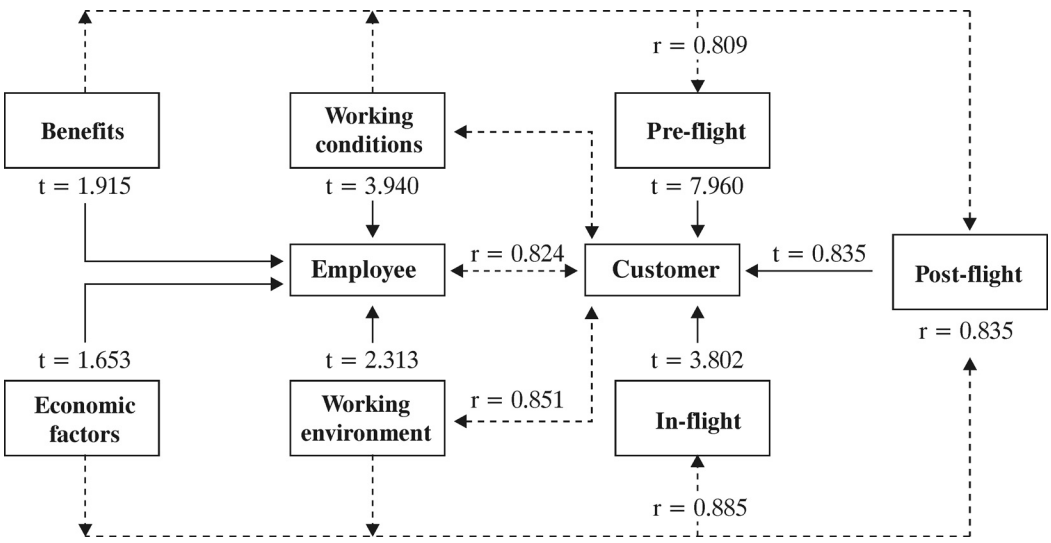
When customer satisfaction is the dependent variable, there is a significant relationship between satisfaction and customer satisfaction on the one hand and the pre-flight (p-value< 0.001) and in-flight (p-value < 0.001) factors on the other. Conversely, there does not appear to be a significant relationship between customer satisfaction and post-flight factors (p-value = 0.169). However, together the three factors explain 96.50 percent of the variance in customer satisfaction.

Another finding is that the correlation between employee satisfaction and each of the customer satisfaction measures, pre-flight (r=0.809), in-flight (r=0.885) and post-flight (r=0.835), is highly significant. This indicates that, as employee satisfaction increases, there is a likelihood that customer satisfaction measures will also increase.

6 Conclusion

The results of the study suggest that the working conditions factor (t-value = 3.940) is the factor which best relates to employee satisfaction. Given that the other variables remain constant, a one-point increase in the value of the measures of satisfaction with the working conditions

Figure 1
Model for the relationships between employee satisfaction and customer satisfaction variables



Correlation is significant at r > 0.80
Significant at *p<0.05, **p< 0.025, ***p<0.01

is related to a 0.455 increase in employee satisfaction. The pre-flight factor (t-value = 7.960), on the other hand, is the factor which best relates to customer satisfaction; a one-point improvement in the value of the measures of satisfaction with pre-flight factor predicts a 0.646 increase in customer satisfaction.

The results from the empirical study indicate that there is a significant relationship between customer satisfaction and employee satisfaction with working conditions (t-value=3.940) and working environment (t-value = 2.313), which supports H1. However, the result does not indicate a significant relationship between customer satisfaction and employee satisfaction with economic factors (t-value = 1.653) and benefits (t-value = 1.915).

Measures of customer satisfaction were hypothesized to influence customer satisfaction. The empirical results from this study reveal that there is a significant relationship between satisfaction and customer satisfaction with the pre-flight (t-value = 7.960) and in-flight (t-value = 3.802) factors. H2 is therefore not rejected.

The relationship between employee satisfaction and customer satisfaction (r = 0.824) is significant. This provides support for H3.

The results of this study also show that measures of employee satisfaction and measures of customer satisfaction have positive associations, which supports H4. The correlation between customer satisfaction and the measures of employee satisfaction are positive, which supports H5. The hypothesis that there is a positive association between employee satisfaction and measures of customer satisfaction, H6, is thus also supported in this study.

The emergence of working conditions and working environment as important dimensions of employee satisfaction, and the pre-flight and post-flight factors as important dimensions of customer satisfaction, indicate that management must address these dimensions. The results suggest that the business will also benefit from building customer satisfaction by setting and achieving targets in areas that facilitate employee satisfaction gained by doing the right things for customers and doing them well. Once such a relationship has been recognised, it is possible to set targets for measures corresponding to each key driver, based upon the strength of its relationship with the measure of customer satisfaction. Furthermore, it is also possible to set

targets for key drivers of employee satisfaction from the targets that have been established for the key drivers of customer satisfaction, given that the strength of the relationship between each relevant pair of employee–customer issues has been established.

The unique contribution of this study is the finding that the only two variables that make a statistically significant contribution in explaining the variability in employee satisfaction, i.e. working environment and working conditions, are also the only variables that produce significant correlations with customer satisfaction. From this result, we can conclude that improvements in the working environment and working conditions variables of employee satisfaction will probably increase customer satisfaction.

This study provides a foundation for additional studies that seek to use a customer satisfaction model for measuring and improving employee satisfaction. The application of this satisfaction measurement framework provides an opportunity for cross-disciplinary research, which can increase the level of understanding of the link between employee and customer satisfaction.

7 Limitations of this study and future research

The empirical results of this study offer insights into the unique contribution of the work climate to service quality issues and provide an improved understanding of the critical role of linking employee satisfaction and customer satisfaction. Nevertheless, the findings should be read with caution, given several limitations. Unlike income and profits, satisfaction is viewed as a latent dimension that cannot be observed directly and can only be estimated through variables.

Data on all the measures used in this study were collected with the same five-point scales at the same time, which raises validity concerns. We cannot be sure whether or not this approach has created any method bias which may have inflated relationships. There is also a time lag between a change in the climate of a business, particularly in employee satisfaction, and its effect on customer satisfaction. Such time lags are not considered in this study.

This study has taken a small step in exploring and understanding the two constructs of employee satisfaction and customer satisfaction, their relationship and their implications for the competitive world. The causal relationships between the two constructs have not been investigated, as they fell outside the scope of this study. Further study of the research models that reveal the causal link between employee satisfaction and customer satisfaction would help to illuminate the area under discussion even more.

Finally, the present study indicates new possibilities for future research. The results suggest that the methodology may be successfully adapted to measure employee satisfaction and customer satisfaction. Future studies using this methodology can clarify relationships between satisfactions and other measures. Future studies can also assess the extent to which the measures of satisfaction reported may be meaningfully grouped and generalised across settings. Future research also needs to challenge the current linear structure of the linkages, and should examine whether or not they have wide applicability, what drives particular outcomes, and what variables mediate the different links.

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Appendix A: Customer sample survey questionnaire

Please indicate your level of satisfaction by indicating **(X)** in order of satisfaction, where
1 – very high satisfaction
2 – high satisfaction
3 – neutral
4 – low satisfaction
5 – very low satisfaction

Table A

FACTORS		1	2	3	4	5
Pre-flight	**Variables**					
	1. Price					
	2. Booking					
	3. Personal (ground)					
	4. Check-in					
	5. Care/information during delays					
	6. Departure/arrival times					
	7. Punctuality					
In-flight	**Variables**					
	8. Safety standards					
	9. Snacks and drinks					
	10. Seat comfort					
	11. Appearance of aircraft					
	12. Personal (on board)					
	13. Overhead luggage locker					
	14. Noise level					
	15. Entertainment					
Post-flight	**Variables**					
	16. Waiting time (on board)					
	17. Delivery time (baggage)					
	18. Baggage handling					
	19. Reaction in case of baggage damage or lost					
	20. Airport transfer					

Appendix B: Employee sample survey questionnaire

Please indicate your level of satisfaction by indicating **(X)** in order of satisfaction, where
1 – very high satisfaction
2 – high satisfaction
3 – neutral
4 – low satisfaction
5 – very low satisfaction

Table B

FACTORS		1	2	3	4	5
Economic factors	**Variables**					
	1. Job security					
	2. Wages					
	3. Promotion policy					
	4. Bonus plan					
	5. Job training					
Benefits	**Variables**					
	6. Vacation policy					
	7. Sick leave					
	8. Health plan					
	9. Retirement benefits					
	10. Pension plan					
Working environment	**Variables**					
	11. Supervisors					
	12. Physical environment					
	13. Quality of environment					
	14. Feedback from supervisors					
Working conditions	**Variables**					
	15. Interest in work					
	16. People at work					
	17. Commuting to work					
	18. Flexible time plan					
	19. Co-workers					