

VALIDATION OF AN EMPLOYEE SATISFACTION MODEL: A STRUCTURAL EQUATION MODEL APPROACH

Ophillia Ledimo, Nico Martins**

Abstract

The purpose of this study was to validate an employee satisfaction model and to determine the relationships between the different dimensions of the concept, using the structural equation modelling approach (SEM). A cross-sectional quantitative survey design was used to collect data from a random sample of (n=759) permanent employees of a parastatal organisation. Data was collected using the Employee Satisfaction Survey (ESS) to measure employee satisfaction dimensions. Following the steps of SEM analysis, the three domains and latent variables of employee satisfaction were specified as organisational strategy, policies and procedures, and outcomes. Confirmatory factor analysis of the latent variables was conducted, and the path coefficients of the latent variables of the employee satisfaction model indicated a satisfactory fit for all these variables. The goodness-of-fit measure of the model indicated both absolute and incremental goodness-of-fit; confirming the relationships between the latent and manifest variables. It also indicated that the latent variables, organisational strategy, policies and procedures, and outcomes, are the main indicators of employee satisfaction. This study adds to the knowledge base on employee satisfaction and makes recommendations for future research.

Key Words: Employee Satisfaction; Structural Equation Modelling; Organisational Strategy; Policies and Procedures; Outcomes

* *Department of Industrial and Organisational Psychology, University of South Africa*

1. Introduction

Organisations are concerned with the implementation of programmes and interventions to improve and sustain employee satisfaction in order to have a competitive advantage. Hence, employee satisfaction studies are intended not only to ascertain satisfaction levels, but also to determine the improvements that need to be made (Chen, Yang, Shiau & Wang 2006, p 486). Employee satisfaction is an important work related attitude. According to Milner (2009, p 72) work attitudes are evaluative statements either positive or negative about objects, people, or events. An attitude represents the cluster of beliefs, assessed feelings, and behavioural intentions towards a person, object or event (McShane & Von Glinow, 2005).

Attitudes have three components namely; cognitive, affective and behavioural components (Milner, 2009, p 72). The cognitive component is the aspect of an attitude that is a description of or belief in the way things are. It is the established perception about the attitude object. The affective component implies the emotional or feeling segment of an attitude. It represents positive or negative evaluations of the attitude object. The behavioural component of an attitude refers to an intention to behave in a certain way towards someone or something. It is the motivation to engage in a particular behaviour with respect to the attitude object. Work related attitudes taps the positive and negative evaluations that an

employee hold about certain aspects of the work (Milner, 2009). According to Spector (2006, p 217) employee satisfaction is an attitudinal variable that reflects how people feel about their jobs overall as well as various aspects of them. Therefore attitudes are judgements and involve logical reasoning (McShane & Von Glinow, 2005). Employee satisfaction is therefore the extent to which individuals like their jobs while employee dissatisfaction is the extent which they dislike their jobs (Spector, 2006).

While all organisations could use surveys to provide a baseline for their existing employees' satisfaction levels, it remains uncertain whether such studies are based on a scientific model or framework. To gain understanding on employee satisfaction, organisational development theorists need to offer an empirically derived evidence to substantiate the use of organisational development models. Hence, there is still a need for employee satisfaction diagnostic model that provides statistical evidence to support its development. By using the model development strategy proposed by Hair, Anderson, Tatham and Black (2005) to develop a diagnostic model for employee satisfaction, one can explain the role of the SEM in theory development. The empirical evidence of the employee satisfaction models will enable organisations and practitioners to initiative interventions aimed at addressing areas of dissatisfaction, which are identified as developmental

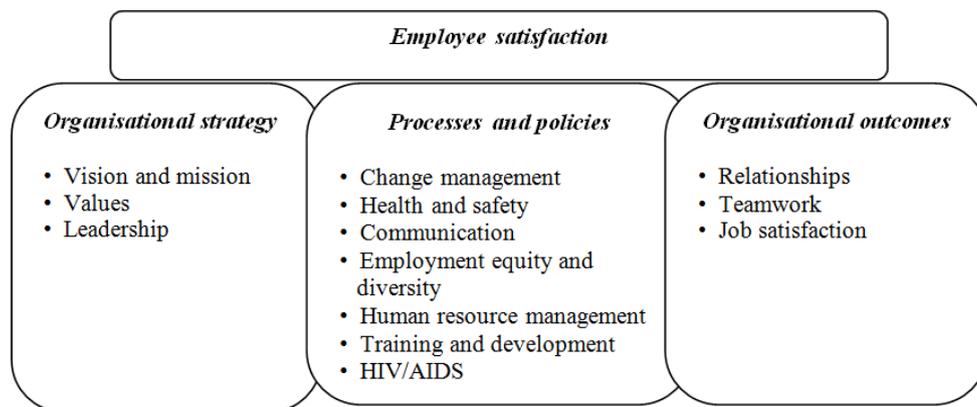
areas, and to leverage on its strengths, which will emerge as areas of satisfaction in the organisation. Thus, the objective of this research was to validate an employee satisfaction model using the SEM as a statistical procedure.

2. Theoretical model of employee satisfaction

There are numerous and various definitions of employee satisfaction that are found in the literature. According to Lofquist and Dawis (1969, p 53) employee satisfaction is a function of the correspondence between the reinforcement from the work environment and the individual's needs. Locke (1976, p 130) stated that employee satisfaction refers to a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience. Martins and Coetzee's (2007, p 21) also conceptualised employee satisfaction as a pleasurable or positive emotional state resulting from an employee's appraisal of his or her company environment or company experience. In addition, Voisard (2008, p 6) defines employee satisfaction as the employee's feelings or state-of-mind regarding the nature of their work and conditions of

employment with a particular employer. A common strand that connects these various definitions is that they all emphasise the fact that employee satisfaction is an emotional response to the individual's experience or appraisal of organisational practices and processes. This implies that satisfaction depends on the intrinsic and extrinsic properties of the job and the characteristics of the individual employee (McShane & Von Glinow, 2005; Varkey, Karlapudi, & Hensrud, 2008). Hence, satisfaction is defined as the individual's overall evaluation of working for a specific organisation (Vilares & Coehlo, 2000; Voisard, 2008). In other words, employee satisfaction is described as employees' feelings or state of mind about the nature of their work and conditions of employment with a particular employer. The above definitions also indicate that employee satisfaction is a concept used to describe employees' contentment and the fulfilment of their expectations and needs, resulting from an appraisal of the various aspects of the organisation (Martins & Coetzee, 2007; Aamodt, 2010). Thus, it is depicted and conceptualised in the following theoretical model as the employee's appraisal of organisational strategy, policies and processes, and outcomes in the organisation.

Figure 1. A conceptual model of employee satisfaction



Organisational strategy

Organisational strategy as a dimension of employee satisfaction includes the vision, mission, values and leadership. Eskilden and Dahlgaard's (2000) causal model of employee satisfaction indicates that strategy and leadership are a vital element when attempting to improve employee satisfaction and are the criterion whereby management sets the agenda for the organisation's future behaviour (Aydin & Ceylan, 2008). A study by Chen *et al* (2006) also indicated that organisational vision is one of the determinants of employee satisfaction within a higher education environment. Values also help to shape the organisation's strategic intent and direction. In addition, research has shown that employee satisfaction has positive significant correlations with

organisational leadership practices (Aydin & Ceylan, 2008; Varkey *et al*, 2008). The leadership practices include the way organisational leadership and management is able to communicate, reward, provide direction and demonstrate concern towards employees (Griffin & Bateman, 1986).

It is therefore hypothesised that: *H1: Organisational strategy is positively associated with employee satisfaction.*

Policies and procedures

The second dimension of employee satisfaction is organisational policies and procedures. Employees can derive satisfaction or dissatisfaction from the policies and processes implemented by their organisation. Policies and processes include change

management, health and safety, communication, employment equity and diversity, human resource management, training and development, as well as HIV/AIDS initiatives. Such policies and processes are used in the evaluation process to determine the level of satisfaction employees derive from the work environment (Küskü, 2001; Spector, 2006). Literature indicates that rewards and benefits are considered to be the primary source of employee satisfaction when they are equitable and congruent with their needs and expectations (Mottaz, 1987; Milner, 2009; Vlosky & Aguillar, 2009).

Based on the above, it is hypothesised that: *H2: Policies and procedures are positively associated with employee satisfaction.*

Organisational outcomes

Relationships, teamwork and job satisfaction are organisational outcomes or results that affect employee satisfaction. Most employees expect their work to fulfil the need for social interaction. Studies indicate that outcomes such as teamwork and positive relationships with colleagues and supervisors lead to increased employee satisfaction (Aydin & Ceylan, 2008; Milner, 2009; Aamodt, 2010). Job satisfaction is also a significant aspect of organisational outcomes, as it indicates the satisfaction that employees derive from their job responsibilities and duties in the organisation (Balgobind, 2002; Chen *et al.*, 2006; Küskü, 2001). Job characteristics stimulate psychological states that lead to employee satisfaction (Hackman & Oldham, 1976; Spector, 2006; Voisard,

2008). Literature described job characteristics as the content and nature of the job tasks in terms of skill variety, task identity, task significance, autonomy and task feedback (Hackman & Oldham, 1976; Spector, 2006). The scope and complexity of the job is defined by the job characteristic. Spector (2006) indicated that employee satisfaction is the result of a high job scope, while employee dissatisfaction is the result of a low job scope.

It is therefore hypothesised: *H3: Organisational outcomes are positively associated with employee satisfaction.*

3. Research design and method

A quantitative research was conducted to validate the theoretical model that was developed based on the literature study. The findings of this empirical study were finally used as the basis for validating the proposed employee satisfaction model.

Population and sampling

An empirical study was conducted among a population consisting of employees of a parastatal utility organisation based in Gauteng province, South Africa. All employees (2650) of the organisation were invited to voluntarily participate in the survey; the sample size was 759 participants. Table 1 presents the biographical profile of the sample, it comprised of 74, 7% males and 25,3% females. They included 2,9% senior managers, 6,9% middle managers, 20,4% supervisors and 69,8% operational staff.

Table 1. Biographical profile of the sample (n=759)

Gender	Frequency	Percent	Cumulative Frequency	Cumulative Percentage
Female	192	25.3%	192	25.3%
Male	567	74.7%	759	100%
Race	Frequency	Percent	Cumulative Frequency	Cumulative Percentage
African	631	83.1%	631	83.1%
Coloured	44	2%	675	85.1%
Indian	15	2%	690	87.1%
White	69	9.1%	759	100%
Job level	Frequency	Percent	Cumulative Frequency	Cumulative Percentage
Senior Manager	22	2.9%	22	2.9%
Middle Manager	52	6.9%	74	9.8%
Supervisory	155	20.4%	229	30.2%
Operational	530	69.8%	759	100%
Department	Frequency	Percent	Cumulative Frequency	Cumulative Percentage
Corporate Affairs	122	16.1%	122	16.1%
Finance	20	2.6%	142	18.7%
Customer Service	183	24.1%	325	42.8%
Operations	434	52.7%	759	100%

Research questionnaire and procedure

In order to achieve the purpose of this study, a survey method was used to gather quantitative data on the participants' responses (Welman, Kruger & Mitchel, 2009). The Employee Satisfaction Survey (ESS) was used to measure employee satisfaction (Martins & Coetzee, 2007); it measures the construct as conceptualised in section 2. The survey is relevant for the context of this study because it is a valid and reliable measure which was developed based on several studies conducted in South Africa organisations. It consists of thirteen dimensions (see table 1) and 75 items, all of which are considered to be of equal value. The scale used is a summated rating in the form of a five-point Likert-type scale with (1) as strong disagreement and (5) as strong agreement.

Owing to their advantages, paper-and-pencil and online survey administration methods were regarded as adequate for this study. According to Evans and Mathur (2005), paper-and-pencil surveys have several key strengths, including personal interaction, clear instructions, question variety, flexibility and adaptability, ability to use physical stimuli, capability to observe respondents and control over the survey environment. In order to minimise the disadvantages of paper-and-pencil surveys, such as geographic limitations and incomplete surveys, facilitators (industrial psychologists) were used to facilitate the group sessions.

Statistical analysis

Data analyses were conducted using the Statistical Package for the Social Sciences (SPSS version 21.0). Descriptive statistics were applied to analyse the demographic variables of the sample. Internal consistency measures such as the means, standard deviations and reliability were conducted. The interpretation of the mean score was based on the proposition of Castro and Martins (2010, p 7) that research by the HSRC indicates that an average of 3.2 is a good guideline to distinguish between positive and potential negative perceptions. Therefore, the researcher decided to use the recommended cut-off score of 3.2 as a guideline to differentiate potential positive and negative perceptions. This implies a mean score above 3.2 indicate satisfaction while a mean score below 3.2 indicates dissatisfaction.

In terms of the inferential statistics the structural equation modelling (SEM) was used. According to Hair *et al.* (1998), SEM refers to a multivariate technique combining aspects of multiple regression and factor analysis to estimate a series of interrelated dependence relationships simultaneously. Confirmatory factor analysis is conducted to determine the validity of the domains of the model. The purpose of the SEM is to mainly allow the researcher to examine the relations between

indicators and their associated latent variables representing the constructs in the theory, as represented in the confirmatory factor analysis measurement model (Kline, 1998).

To achieve the above purpose of SEM, the following are the main stages of the approach that were conducted in this study:

- Stage 1: The development of a theoretical model. This initial stage involves using all available relevant theory, research and information to construct the theoretical model of the construct (Hair *et al.*, 1998).
- Stage 2: Constructing a path diagram of causal relationships. It is essential to specify the relationships between the relevant variables describing the phenomenon of study; using graphs with one-headed arrows indicating causal relationships or two-headed arched arrows indicating mutual dependencies (correlation) (Kline, 1998).
- Stage 3: Converting the path diagram into a set of structural and measurement models. Hair *et al.* (1998), describe confirmatory factor analysis as the use of multivariate techniques to test or confirm a pre-specified relationship. The fundamental hypothesis of the SEM is that the covariance matrix of the observed or manifest variables is a function of a set of parameters which, in this study, means the relationship between latent variables and between the latent and the observed variables (Bollen, 1989).
- Stage 4: Choosing the input matrix type and estimating the proposed model, and stage 5: assessing the identification of the structural model. A correlation matrix was used because the purpose of this study was to explore the pattern of interrelationships between the latent and manifest variables (Hair *et al.*, 1998). Once the structural and measurement model have been specified and the input data selected, the AMOS technique of the SPSS computer program can be used to actually estimate the model. The goodness-of-fit of this model is first assessed for the overall model and then for the measurement and structural model separately. Finally, the proposed model is verified and required significant modifications of the model are explored.
- Stage 6: The evaluation of goodness-of-fit (GFI). The GFI statistics determine if the data fit the model (Bollen, 1989; Hair *et al.*, 1998), focussing on the degree to which the specified indicators represent the hypothesised constructs. It also evaluates each construct to examine the indicator loadings for statistical significance and to assess the construct's reliability and variance extracted (Hu & Bentler, 1998). The following five indices are used to evaluate the model. Firstly, goodness-of-fit index (GFI) meaning a value of 0 reflects no fit, while a value of 1 is a

perfect fit and values close to 0.90 reflect an acceptable fit. Secondly, normed fit index (NFI) indicating a value of 0 reflects no fit, while a value of 1 is a perfect fit and values close to 0.90 reflect an acceptable fit. Thirdly, incremental fit index (IFI) indicates that a value of 0 reflects no fit, while a value of 1 is a perfect fit and values close to 0.90 reflect an acceptable fit. Fourthly, comparative fit index (CFI) is a value of 0 reflects no fit, while a value of 1 is a perfect fit and values close to 0.90 reflect an acceptable fit. Lastly, roots mean squared error of approximation (RMSEA) indicating that a value of 0.05 represents a close approximate fit; values between 0.05 and 0.08 suggest a reasonably approximate fit and values greater than 0.10 suggest a poor fit.

- Stage 7: Interpreting and modifying the mode: This is the final stage of SEM and it entails

interpreting and modifying the model. According to Hair *et al.* (1998) possible modifications to the proposed model may be indicated through examination of the normalised residuals and the modification indices. The modification index from AMOS exists for each fixed parameter in the model and it is used to estimate or predict improvement in the model fit by setting the parameters free (Hu & Bentler, 1998; Hair *et al.*, 2005).

4. Research findings

The following discussion presents the findings results of the descriptive and inferential analysis of this study.

Descriptive analysis

Table 2. Reliability and mean scores of the employee satisfaction dimensions (ESS)

ESS dimensions	Cronbach's alpha coefficient	Number of items	Mean	Standard deviation
Vision and mission	0,84	4	3,38	1,16
Values	0,84	5	3,13	1,10
Leadership	0,88	7	3,13	1,11
Change management	0,89	7	2,69	1,10
Health and safety	0,81	3	3,22	1,17
Employment equity and diversity	0,74	5	2,53	0,96
Human resource management	0,72	4	2,69	1,05
Training	0,78	4	3,00	1,12
HIV/AIDS	0,66	3	3,90	0,96
Communication	0,84	11	2,86	0,89
Teamwork	0,70	3	3,29	1,15
Relationships	0,83	8	3,21	0,91
Job satisfaction	0,89	9	3,37	1,05
Overall scores	0,96	74	3,22	1,02

As indicated in Table 2, the Cronbach's alpha coefficient values were high and acceptable for all the ESS dimensions. The overall reliability of the ESS is 0,96; while the reliabilities of the dimensions ranges from 0,66 to 0,89. The participants obtained significantly higher mean scores, indicating satisfaction in most of the ESS dimensions. Although the participants scored high on vision and mission (m = 3,38), the researchers could infer the participants seemed to be more satisfied with dimensions health and safety (3,22), HIV/AIDS (3,90), teamwork (3,29), relationships (3,21) and job satisfaction (3,37). The dimensions that emerged as areas of dissatisfaction are change management (2,69), communication (2,86), employment equity and diversity (2,53).

Structural equation model

The SEM was used to validate the theoretical employee satisfaction model, focussing on manifest

and latent variables. In this study, manifest variables refer to observed variables that are measured as dimensions of ESS (see table 2). While, latent variables are not directly observed but are rather inferred based on theory, namely organisational strategy, policies and procedures, and outcomes (see figure 1). Table 2 indicates the results of the correlation matrix of the manifest and latent variables. An analysis was conducted using AMOS (version 18.0) to determine the validity of the three latent variables of the mode; the manifest variables had moderate to high loadings in the expected latent variables and were all statistically significant.

According to Chin (1998), the recommended standardised path is at least 0,20, or above 0,30, for variables in order to be considered for interpretation. Although there were low loadings of 0,35 (health and safety with processes and policies), 0,21 (vision and mission with organisational strategy) and 0,14 (HIV/AIDS with policies and procedures), overall the coefficient paths from the latent variables to the

manifest variables were positive, indicating a satisfactory fit of above 0,40 for most of the manifest variables.

Table 3. Results of the correlation matrix of the employee satisfaction manifest and latent variables

Manifest variables	Organisational strategy	Processes and policies	Organisational outcomes
Vision and mission	0,21	0,00	0,00
Values	0,42	0,00	0,00
Leadership	0,63	0,00	0,00
Change management	0,00	0,59	0,00
Health and safety	0,00	0,35	0,00
Employment equity and diversity	0,00	0,51	0,00
Human resource management	0,00	0,52	0,00
Training	0,00	0,44	0,00
HIV/AIDS	0,00	0,14	0,00
Communication	0,00	0,65	0,00
Teamwork	0,00	0,00	0,49
Relationships	0,00	0,00	0,55
Job satisfaction	0,00	0,00	0,67

Table 4 gives the results of the confirmatory factor analysis of the latent variables. The path coefficients of the latent variables organisational strategy, policies and processes, and outcomes

indicated a satisfactory fit for all these variables. All path coefficients leading from one latent variable to another were positive and they were all moderate to high, ranging from 0,919 to 1,059.

Table 4. Results of the correlation matrix of employee satisfaction latent variables

Latent variables	Organisational strategy	Processes and policies	Outcomes
Organisational strategy	,00		
Processes and policies	,996	,00	
Outcomes	1,059	,919	,00

The evaluation of goodness of fit of the model indices is indicated in table 5. The various measures of model fit, which included absolute and incremental fit measures, were used to assess the model. Absolute measures are chi-square, P-value and GFI, while incremental measures include NFI, CFI and IFI. A SEM test of the employee satisfaction model 1

suggested that all measures indicated a weak fit. Based on the above results of fit measures, the first model was rejected. On the basis of the data in this research, this model did not meet the required goodness of fit for both incremental and absolute measures used. Hence the modification procedures were conducted in this study.

Table 5. Goodness-of-fit measures for employee satisfaction model 1

Indices	Values
Goodness-of-fit index (GFI)	0,87
Chi-square (CMI)	625,02
P-value of close fit	0,000
Root mean square residual (RMR)	2,07
Root mean square error of approximation (RMSEA)	0,10
Normed fit index (NFI)	0,88
Incremental fit index (IFI)	0,89
Comparative fit index (CFI)	0,89
GFI; NFI, IFI and CFI above 0.90 signify good fit	

The modification index from AMOS was applied to look for improvements and it indices were used with caution. According to (Bollen, 1989) a parameter link should only be relaxed if it can be

interpreted substantially regarding the direction of impact and the sign of the parameter. In this study, modification indices suggested that the constraints on the error terms for manifest variables should be

relaxed in order to obtain a better fit of the SEM, as depicted in figure 2. A SEM test of employee satisfaction model 2 indicated both an incremental and absolute goodness-of-fit, based on the statistical measures (see table 6). In terms of GFI, the value of 0.905 met the required value of 0.90, which suggests good model fit. NFI demonstrated a good model fit

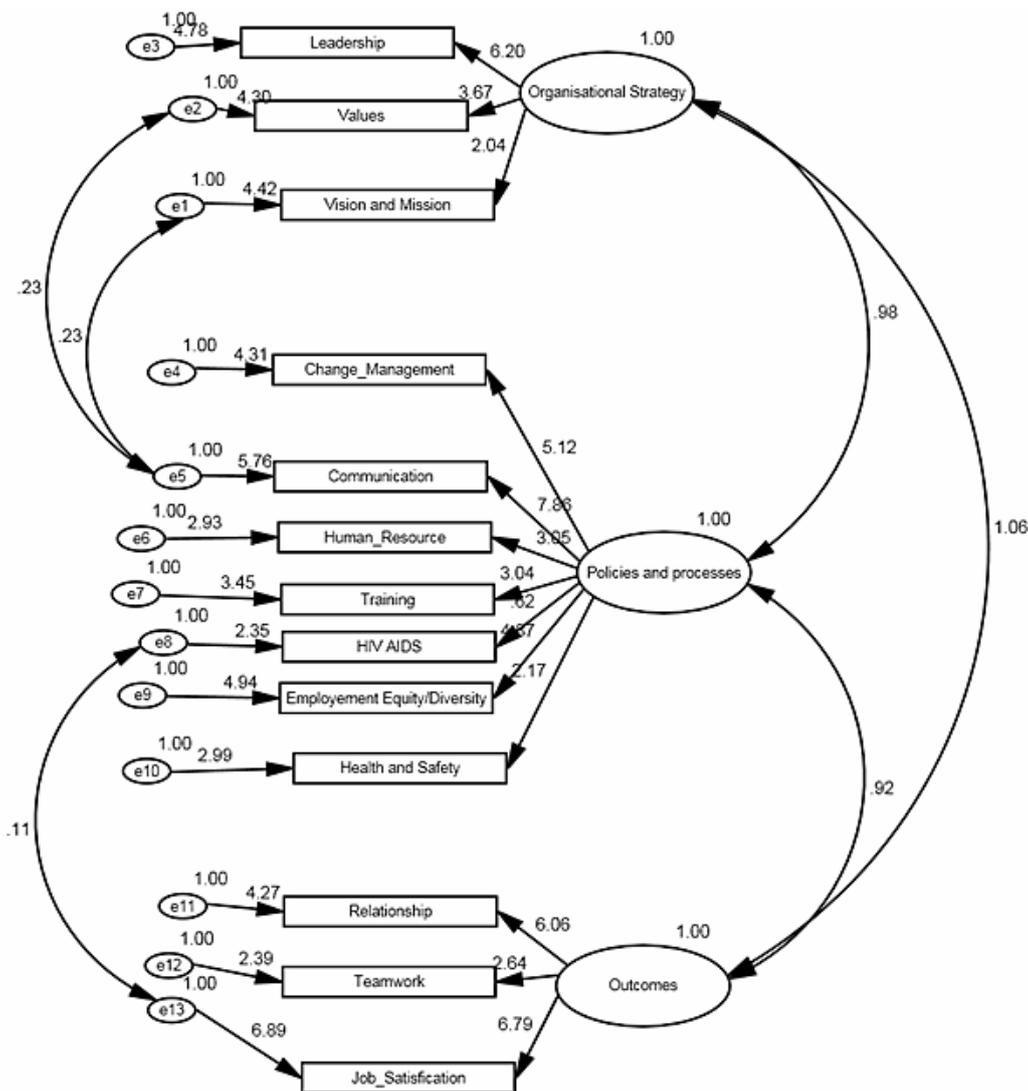
with the value of 0.910, which met the minimum requirement value of 0.90 for model fit and this improves the model fit by 91%. IFI value of 0.920 is above the required minimum value of 0.90 which indicates an acceptable model fit. CFI value of 0.920 is also above the cut-off point of 0.90, which indicates an acceptable model fit.

Table 6. Goodness-of-fit measures for employee satisfaction model 2 (Modified)

Indices	Values
Goodness-of-fit index (GFI)	0,905
Chi-square (CMI)	471,869
P-value of close fit	0,000
Root mean square residual (RMR)	1,765
Root mean square error of approximation (RMSEA)	0,096
Normed fit index (NFI)	0,910
Incremental fit index (IFI)	0,920
Comparative fit index (CFI)	0,920

GFI; NFI, IFI and CFI above 0.90 signify good fit

Figure 2. Employee satisfaction diagnostic model



5. Discussion

The overall mean score of this study indicated that the participants of this sample seem to be satisfied with their organisation. However, the results indicated that the sample of participants in this parastatal organisation seem to be dissatisfied with the organisation's policies and procedures regarding communication, change management, employment equity and diversity. The results of this study confirmed the proposed three hypotheses that employee satisfaction is positively associated with organisational strategy, policies and procedures as well as organisational outcomes. The validation of an employee satisfaction model confirms the advantages of using SEM as a statistical procedure for developing a theoretically justified model for employee satisfaction. Based on a literature review, a theoretical model was developed as a framework in terms of which organisations can determine their employees' satisfaction. It highlights dimensions such as organisational strategy, policies, processes and outcomes in order to determine employees' contentment and fulfilment in the organisation.

The SEM model also indicated two new correlations between the latent variables. The first relationship was the correlation between communication with organisational values, vision and mission statement, and the second correlation between dimensions job satisfaction and HIV/AIDS. To improve the overall fit of the model there are two pairs of the manifests variables that were allowed to correlate. The first pair of the manifest variables with which error terms were allowed to correlate is communication and the variables values, vision and mission. Communication includes disseminating and sharing information in the organisation which mainly focusses on its values, mission and vision statement (Steyn, 2003). Fairhurst, Jordan, and Neuwirth (1997), argue that the mission statements are seen often in company newsletters, speeches, annual reports, brochures, and posters. Because the organisational values, mission and vision are mainly aspects or contents of the communication process, it is clear that these manifest variables are related and their error terms were allowed the correlation. The second pair of manifest variables that the modification indices suggested should be allowed to correlate was job satisfaction and HIV/AIDS. Voisard (2008) suggests job satisfaction entails employees' positive appraisal of their jobs based on the conditions of their working environment or organisation. Employees are either infected with or affected by HIV/AIDS; hence organisations need to initiate interventions to positively impact the individuals, families, organisations, businesses and the economy (Matlala, 1999). The results of the study conducted by Ho (1997, p 187) indicate that wellness programmes have a positive impact on employee outcomes such as job satisfaction and high morale.

Since these variables are positively related, the constraints were also been relaxed.

A comparison of the SEM model (Figure 2) and the theoretical model revealed three similarities. Firstly, the domain of organisational strategy has direct causal relationship with dimensions vision and mission, values and leadership. These confirm the literature review that organisational strategy is the criterion according to which management sets the agenda for the future behaviour of organisations, and is one of the determinants of employee satisfaction (Chen *et al.*, 2006; Eskildsen & Dahlgaard, 2000). Secondly, the domain policies and processes indicated a direct relationship with dimensions change management, health and safety, employment equity and diversity, communication, human resource management, training and HIV/AIDS. The literature also suggests that policies and processes are used in the processes of determining the level of satisfaction employees derive from various aspects of an organisation (Küskü, 2001; Matlala, 1999). Thirdly, the domain of outcomes has direct relationship with the dimensions relationships, teamwork and job satisfaction. The literature indicates that teamwork and positive relationships with colleagues and supervisors enhance employee satisfaction (Milner, 2009; Aamodt, 2010).

6. Conclusions, implications, limitations and recommendations for future research

The use of the structural equation modelling approach enabled the researcher to propose and validate a model of employee satisfaction. The domains of this model should enable organisations to identify developmental areas based on employees' dissatisfaction or areas of strengths based on the employees' satisfaction with the dimensions. The diagnostic model will also enable organisations and practitioners to initiative interventions aimed at addressing areas of dissatisfaction and to leverage on the areas of satisfaction in the organisation. Then, organisations will be able to realise the benefits of employee satisfaction which are employee retention, customer satisfaction, improved quality, enhanced performance, life satisfaction, employee health and wellbeing. The use of the structural equation modelling indicates that it is an important statistical procedure in theory development, in order to generate new models that will assist managers and practitioners to deal with organisational challenges.

In terms of the limitation of this study, the results of this cannot be generalised to the broader parastatal employee population on the basis that it was conducted in a single organisation. The study was cross-sectional in nature; hence it cannot confirm causal relationship between the variables. Nonetheless, this study identified the need for further research as well as the expansion of the theoretical knowledge based on the concept employee

satisfaction. Future research using longitudinal research design in various organisational contexts is recommended.

References

- 1 Aamodt, M. G. (2010). *Industrial/organizational psychology: An applied approach* (6th ed.). Cengage Learning, Belmont, CA.
- 2 Arnold, H. J. & Feldman, D. C. (1986). *Organisational behaviour*. McGraw-Hill, New York.
- 3 Aydin, B. & Ceylan, A. (2008). The employee satisfaction in metalworking manufacturing: How do organizational culture and organizational learning capacity jointly affect it? *Journal of Industrial Engineering Management*, 1 (2), 143–168.
- 4 Aydin, B. & Ceylan, A. (2009). A research analysis on employee satisfaction in terms of organizational culture and spiritual leadership. *International Journal of Business and Management*, 4 (3), 159–168.
- 5 Balgobind, V. (2002). *The impact of transformational leadership on subordinate job satisfaction. Unpublished master's dissertation*. University of South Africa, Pretoria.
- 6 Bentler, P. M. & Bonnet, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88, 588–606.
- 7 Bollen, K. A. (1989). *Structural equations with latent variables*. Wiley, New York.
- 8 Chen, S., Yang, C., Shiau, J. & Wang, H. (2006). The development of an employee satisfaction model for higher education. *The TQM Magazine*, 18 (5), 484–500.
- 9 Chin, W. W. (1998) "Issues and opinions on structural equation modelling", *MIS Quarterly*, 22 (1), 716 - 730.
- 10 Castro, M. L., & Martins, N. (2010). The relationship between organisational climate and employee satisfaction in a South African information and technology organisation. *South African Journal of Industrial Psychology*, 36 (1), 1–5.
- 11 Eskildsen, J. K. & Dahlggaard, J. J. (2000). A causal model for employee satisfaction. *Total Quality Management and Business Excellence*, 11 (8), 1081–1094.
- 12 Evans, J.R. & Mathur, A. (2005). The value of online surveys. *Internet Research*, 15 (2), 195–219.
- 13 Fairhurst, G. T., Jordan, J. M. & Neuwirth, K. (1997). Why are we here? Managing the meaning of an organizational mission statement. *Journal of Applied Communication Research*, 25, 243–263.
- 14 Fosam, B. E, Grimsley, F. J. M. & Wisner, J. S. (1998). Exploring models for employee satisfaction with particular reference to a police force. *Total Quality Management*, 9, 235–247.
- 15 Griffin, R. W. & Bateman, T. S. (1986). Job satisfaction and organisational commitment. In C. L. Cooper & I. T. Roberston. (Eds). *International review of industrial and organisational psychology*. (pp 157–188). New York. John Wiley & Sons.
- 16 Hackman, J. R. & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance*, 16, 250–279.
- 17 Hair, J. J, Anderson, E. R, Tatham, L. R. & Black, C. W. (1998). *Multivariate data analysis* (5th ed). Prentice-Hall, Upper Saddle River, New Jersey.
- 18 Hair, J. J, Anderson, E. R, Tatham, L. R. & Black, C. W. (2005). *Multivariate data analysis* (6th ed) Prentice-Hall, Upper Saddle River, New Jersey.
- 19 Ho, J. T. S. (1997). Corporate wellness programmes in Singapore: Effect on stress, satisfaction and absenteeism. *Journal of Managerial Psychology*, 12 (3), 177–189.
- 20 Hu, L. T. & Bentler, P. M. (1998). Cut-off criteria for fit indexes for covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modelling. A Multidisciplinary Journal*, 6, 1–55.
- 21 Küskü, F. (2001). Dimensions of employee satisfaction: A state university example. *METU Studies in Development*, 28(3/4), 399–430.
- 22 Küskü, F. (2003). Employee satisfaction in higher education: The case of academic and administrative staff in Turkey. *Career Development International*, 8 (7), 347–356.
- 23 Locke, E. A. (1976). The nature and causes of job satisfaction. In D. M. Dunnette (Ed.). *Handbook of industrial and organizational psychology* (pp. 297–349), Rand McNally, Chicago.
- 24 Lofquist, L. H. & Dawis, R.V. (1969). *Adjustment to work: A psychological view of man's problems in a work-oriented society*. Appleton Century Crofts, New York.
- 25 Maltser, K., Fuchs, M. & Schubert, A. K. (2004). Employee satisfaction: Does Kano's model apply? *Total Quality Management*, 15 (19), 1179–198.
- 26 Martins, N. & Coetzee, M. (2007). Organisational culture, employee satisfaction, perceived leader emotional competency and personality type: An exploratory study in a South African engineering company. *South African Journal of Human Resource Management*, 5 (2), 20–32.
- 27 Matlala, S. (1999). Prioritising health promotion and employee wellness. *People Dynamics*, 8 (17), 22–25.
- 28 McShane, L. S. & Von Glinow, A. M. (2005). *Organizational behaviour* (3rd ed.). McGraw-Hill Irwin Boston.
- 29 Milner, K. (2009). Attitudes and job satisfaction. In S. P. Robbins, T. A. Judge, A. Odendaal and G. Roodt (Eds.), *Organizational behaviour: Global and South African perspective* (pp 65–84), Pearson Education, Cape Town.
- 30 Mottas, C. J. (1987). Age and work satisfaction. *Work and Occupations*, 14, No. 3, 387–409.
- 31 O'Neil, M. (2005). Employee care, a vital antecedent to customer care in the health care industry: An exploratory investigation of the employee satisfaction construct at North East Alabama Regional Medical Center. *International Journal of Health Care Quality Assurance*, Vol. 18, No. 2, 131–151.
- 32 Odendaal, A. & Roodt, G. (2009) What is organizational behaviour? In S. P. Robbins, T. A. Judge, A. Odendaal and G. Roodt (Eds.), *Organizational behaviour: Global and Southern African perspective* (pp. 3–25), Pearson Education, Cape Town.
- 33 Porter, L. W., Lawler, E. E. & Hackman, J. R. (1975). *Behaviour in organizations*. McGraw-Hill, New York.
- 34 Rad, A. M. M. & Yarmohammadian, M. H. (2006). A Study of relationship between managers' leadership styles and employee's job satisfaction. *Leadership in Health Service*, Vol. 19, No. 2, 11–28.

- 35 Salkind, J. N. (2009). *Exploring research* (7th ed.). Pearson Education International, Upper Saddle River, New Jersey.
- 36 Slater, R. & Mayne, P. (2000). Strategic organization development. In M. Meyer, & E. Botha (Eds.). *Organizational development and transformation in South Africa* (pp. 37–65), Butterworths, Durban.
- 37 Spector, P. E. (2006). *Industrial and organizational psychology: Research and practice* (4th ed.). Wiley, Englewood Cliffs, New Jersey.
- 38 Steyn, B. (2003). From strategy to corporate communication strategy: A conceptualization. *Journal of Communication Management*, Vol. 8, No. 2, 168–183.
- 39 Varkey, P., Karlapudi, S. & Hensrud, D. (2008). The impact of a quality improvement program on employee satisfaction in an academic microsystem”, *American Journal of Medical Quality*, Vol. 23, No. 3, 215–221.
- 40 Vilares, M. A. & Coelho, P. S. (2000). The employee-customer satisfaction chain in the ECSI model. *European Journal of Marketing*, Vol 37, No. 11/12, 1703–1722.
- 41 Vlosky, R. P. & Aguillar, F. X. (2009). A model of employee satisfaction: Gender differences in cooperative extension. *Journal of Extension*, Vol 47, No. 2, 1–15.
- 42 Voisard, V. (2008). Employee empowerment and employee satisfaction in the workplace”, *California Sociology Journal*, Vol 1, 1–17.
- 43 Welman, C., Kruger, F. & Mitchell, B. (2009). *Research methodology*. Oxford University Press, Cape Town.