The relationship between organisational climate and employee satisfaction in a South African information and technology organisation

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ABSTRACT

Orientation: Organisational climate and job satisfaction are distinct but related constructs, and both appear to influence employees' understanding of the work environment and their level of job satisfaction.

Research purpose: The objective of this study was to explore the relationship between organisational climate and job satisfaction to determine whether employees' perceptions of the work environment influence their level of job satisfaction.

Motivation for the study: Organisations are facing more challenges than ever before. These challenges are not unique to any specific organisation or industry, but affect all organisations. Organisational climate in particular is constantly challenged by changes impacting organisations today.

Research design, approach and method: An organisational climate questionnaire was administered to a convenience sample of 696 employees from a population of 1453 employees working in three regions in which the organisation was operational. Confirmatory and exploratory factor analyses were used to investigate the structure of the climate model.

Main findings: The revised 12-factor model (after the confirmatory factor analysis) fitted the data best and the researchers therefore decided to proceed with the revised 12-factor model (11 dimensions) for further analysis. A stepwise regression was conducted and nine dimensions of organisational climate were found to predict job satisfaction. The results indicated a strong positive correlation ($r = 0.813$, $p < 0.01$) between organisational climate and the dependent variable of job satisfaction.

Practical implications: This study provided support for the view that line managers and human resource practitioners should be aware that different biographical groups have different needs that can influence their job satisfaction levels and different perceptions of the climate within the organisation and that this impacts on their behaviour.

Contribution: The findings of this study indicated a positive relationship between organisational climate scores and job satisfaction scores and thus, regardless of how the dimensions are perceived, organisational climate has an influence on job satisfaction.

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INTRODUCTION

Organisations in the 21st century are facing more challenges than ever before. These challenges are not unique to any specific organisation or industry, but affect all organisations, regardless of their structure or size. Organisational climate in particular is constantly challenged by changes impacting organisations today (Nair, 2006). To survive and outdo their competitors, organisations are constantly seeking to improve their performance. Authors such as Brown and Leigh (1996) think that organisational climate is becoming more important than ever before because organisations need to ensure that those individuals who add value to the bottom line will want to stay in the organisation and will want to continue pouring their effort into their work to the benefit of the organisation.

According to Watkin and Hubbard (2003), high-performing organisations have climates with particular measurable characteristics, which has shown how organisational climate can directly account for up to 30% of the variance in key business performance measures. This is supported by research that examined the relationship between the way in which employees describe their work environments and the relative performance success of these environments (Wiley & Brooks, 2000). Watkin and Hubbard (2003, p. 380) contend that climate does make a difference to organisations' performance because 'it indicates how energising the work environment is for employees'. There is, however, clearly more to an organisation's performance than an 'energised employee' or the presence of certain organisational and leadership characteristics: 'productivity … also depends on the morale which governs discretionary effort – the willingness to go the extra mile'.

Researchers have been interested in understanding how employees' perceptions of the work environment influence their level of job satisfaction since Mayo's (1933) studies at *Western Electric*. These studies found that environmental factors influence worker productivity and morale. Bisconti and Solomon (cited in Peek, 2003) report that an organisational climate that allows a high degree of autonomy and nurtures relationships among peers, supervisors and subordinates results in more satisfied workers.

Organisations that are able to create environments that employees perceive as benign and in which they are able to achieve their full potential are seen as a key source of competitive advantage (Brown & Leigh, 1996). Organisational climate can therefore be regarded as a key variable in successful organisations.

Organisational climate

Organisational climate is a meaningful construct with significant implications for understanding human behaviour in organisations (Allen, 2003; Al-Shammari, 1992; Ashforth, 1985; Cotton, 2004; Glission & James, 2002; Tustin, 1993; Woodman & King, 1978). This is evident from all the research conducted and published on the role and value of organisational climate in organisations and its impact on various organisational outcomes over the past 50 years (Campbell, Dunnette, Lawler & Weick, 1970; Forehand & Gilmer, 1974; Glick, 1985; Hellriegel & Slocum, 1974; James & Jones, 1974; Joyce & Slocum, 1979; Litwin & Stringer, 1968; Naylor, Pritchard & Ilgen, 1980; Payne & Pugh, 1976; Schneider & Reichers, 1983; Tagiuri & Litwin, 1968; Woodman & King, 1978).

A number of definitions of organisational climate have been formulated in the various studies on the concept (Forehand & Gilmer, 1964; Gerber, 2003; Hellriegel & Slocum, 1974; Litwin & Stringer, 1968; McMurray, 2003; Moran & Volkwein, 1992; Pritchard & Karasick, 1973; Schneider & Snyder, 1975; Tagiuri & Litwin, 1968) and although a precise and unitary definition of climate does not exist, researchers agree that certain characteristics describe the construct and differentiate it from other concepts. These characteristics are as follows:

- Climate is generally considered to be a molar construct that can change over time.
- It is perceived by and shared among organisational members, which can result in consensus among individuals.
- It consists of global impressions of the organisation that members form through interacting with each other and organisational policies, structures and processes.
- Climate perceptions are descriptions of environmental events and conditions rather than evaluations of them.
- The climate construct is multidimensional.
- It refers to the 'feeling of an organisation'.
- Climate can potentially influence an individual's behaviour.

For the purposes of this research, definitions by Gerber (2003) and Moran and Volkwein (1992) were integrated. Organisational climate is defined as the shared perceptions, feelings and attitudes that organisational members have about the fundamental elements of the organisation, which reflect the established norms, values and attitudes of the organisation's culture and influences individuals' behaviour positively or negatively.

Organisational climate has a long history in industrial and organisational psychology and organisational behaviour. However, Kurt Lewin was the first researcher to study the concept and argued that behaviour is a function of the person and the environment (Litwin & Stringer, 1968).

The study of organisational climate gathered momentum in the late 1970s with a focus on integrating climate research into the broader field of organisational studies and distinguishing climate from similar topics such as satisfaction (Guion, 1973; Johannesson, 1973; LaFollette & Sims, 1975) and organisational structure (Drexler, 1977; Payne & Pugh, 1976).

According to Moran and Volkwein (1992), understanding how climates are formed became important, because it was believed that it would provide a deeper comprehension of the concept and lead to further conceptual and methodological progress. Initially, organisational climate was viewed as an objective construct consisting of organisational attributes such as an organisation's size, structure and policies. It is these actual conditions that play a primary role in determining people's attitudes, values and perceptions of organisational events. This approach, however, is criticised and its validity questioned, because it does not consider the individual's perception of organisational attributes.

Contrary to the structural approach, the perceptual approach postulates that individuals are influenced by their perceptions of, or the psychological meaning they attach to, organisational characteristics. Hence, this approach can be seen as 'personalistic', in the sense that climate is an individual perception (Schneider, 1975). Criticisms of this approach are, firstly, that the primary source of climate is placed mainly within individuals, thereby negating the possibility of a composition theory. Hence it cannot be seen as an organisational attribute. A second criticism is that it assumes meaning as something that individuals bring to, and force on, organisational processes and events rather than as a result of the interaction between organisational members (Moran & Volkwein, 1992).

The interactive approach builds on the aforementioned approaches and combines the objectivism of the structural approach and the subjectivism of the perceptual approach (Ashforth, 1985). The underlying assumption of the interactive approach is that organisational climate is the result of the interaction of individuals in response to their situation, which results in the shared agreement of organisational members (Moran & Volkwein, 1992). This approach provides a link between the structural and the perceptual approaches because it acknowledges that meaning is formed when the individual intentionally interacts with objects and people because it provides meaning for him or her.

The approaches discussed above fail to take into consideration the influence that organisational culture has on the perceptions of individuals and on how they interact with one another.

The final approach is referred to as the cultural approach. This approach does not focus on the formal properties of organisations, nor does it concern itself with the subjective psychological characteristics of the individual and how that individual combines these two approaches. According to the cultural approach, organisational climate is shaped by individuals within a group who interact and share the same abstract frame of reference, organisational culture, as they learn to deal with the organisation's demands (Moran & Volkwein, 1992). This approach emphasises the interaction of individuals as a source of climate, a view it shares with the interactive approach above. However, the cultural approach includes the role of organisational culture as a key factor in the development of organisational climate.

Levels of climate

The definitions of climate by various researchers posit the idea that climate exists at three different levels. James and Jones (1974) differentiate between organisational climate and psychological climate, with the former term being recommended when climate is regarded as an organisational attribute and the latter when climate is considered to be an individual attribute. Psychological climate is therefore studied at the individual level of analysis, referring to individuals' descriptions of the organisation's policies and processes, while organisational climate is measured by means of the average perceptions of organisational members, referring to a collective description of the same environment (Joyce & Slocum, 1982).

Hellriegel and Slocum (1974) propose a group or subsystem climate and state that climate refers to a set of attributes that is perceived about an organisation or its subsystems and that may be deduced from the way the organisation or subsystem deals with its members and the environment. On the basis of this analysis, Field and Abelson (1982) postulate that climate has evolved from being considered solely an organisational attribute to an attribute that may be subsystem specific (group or individual). According to these authors, the distinguishing mark of climate, regardless of the level of analysis, is that it has enduring qualities, which can be measured, and influences the behaviour of organisational members.

Organisational climate and culture

The concepts of organisational climate and organisational culture are often used interchangeably, with researchers in organisational studies treating the concepts as if they were identical. Organisational climate and organisational culture are similar concepts. Not only do they both describe the experiences

TABLE 1
Summary of the differences between organisational climate and organisational culture

Organisational climate	Organisational culture
Has its roots in social psychology discipline.	Originates from within the anthropology domain.
Focus is on the individual's perceptions and cognitions.	Focus is on analysing the underlying structure of symbols, myths and rituals.
Is a relatively enduring characteristic of the organisation.	Is a highly enduring characteristic of the organisation.
Is more visible and operates at the level of attitudes and values.	Is relatively invisible and is preconscious in individuals.
Evolves more quickly and changes rapidly.	Evolves slowly and is not easy to change.
Unique characteristics of individuals are evident.	Collective characteristics are exhibited.
Quantitative methodology is used.	Qualitative methodology is used.

Source: Denison (1996), Gerber (2003) and Moran and Volkwein (1992)

TABLE 2
Dimensions of organisational climate

Dimension	Description
Trust	Refers to trust between employee and manager. Managers are honest and open.
Training & development	Refers to training initiatives received, satisfaction with the initiatives and availability of training plans. An awareness of mentoring and coaching programmes, promotion criteria and opportunities.
Transformation & diversity	Refers to equal treatment and management of employees. Refers to understanding, acceptance and support of the transformation strategy and initiatives.
Job satisfaction	Employees feel positive about their future and work is challenging and interesting. The organisation cares for its employees and retains effective employees.
Leadership	Refers to ability of managers to manage and lead employees, how they behave and treat employees and the knowledge they have.
Employee wellness	Refers to the support given to employees to balance work and family life and the pace of the work and level of stress.
Communication	Refers to communication issues in the company, the manager's ability to listen to the staff, share information and sort out misunderstandings.
Performance management	Refers to receipt of information and feedback about the employee's job, responsibilities and goals. Refers to satisfaction with job evaluation and recognition received.
Remuneration & reward	Refers to fairness of salary package in relation to the market and in comparison with similar jobs in the organisation.
Teamwork	Refers to belonging and fit in the team and organisation. Refers to team dynamics and decision making.
Work environment	Refers to quality of equipment and technology. Physical work environment.
Image of the organisation	Employees are proud to be associated with the organisation. An employer of choice, well known in the market and highly rated.

of employees and assist us in understanding psychological phenomena in particular organisations but they also provide explanations regarding how organisations influence behaviour, attitudes and the well-being of individuals, why some organisations are more able to adapt to environmental changes and why some organisations are more successful than others (Glission & James, 2002).

Schneider (2000) succinctly summarises the differences between these two concepts by highlighting that organisational climate describes events and experiences and represents the patterns of behaviour of employees, whereas culture is explored when individuals are asked why these patterns of shared values, common assumptions and beliefs exist. In the literature, culture is viewed as being more deeply rooted in the organisation and is based on employees' values, beliefs and assumptions. This is in contrast to organisational climate, which is a 'snapshot' of a particular time in an organisation and is measured by a range of dimensions. Denison (1996), Gerber (2003) and Moran and Volkwein (1992) provide a list of differences between these constructs, which is presented in Table 1.

Organisational climate dimensions

From the above discussion, it is clear that definitions and approaches to organisational climate are diverse. In the literature, it is evident that the same applies to the dimensions and measurement of organisational climate because various researchers use a wide variety of dimensions to assess organisational climate (Davidson, 2000). Although many dimensions have been identified (e.g. Campbell *et al*., 1970; Jones & James; 1979; Litwin & Stringer, 1968), this research utilised dimensions that were developed specifically for this study. Comparisons were drawn between these dimensions and those of Coetsee (cited in Gerber, 2003), Tustin (1993) and Wiley and Brooks (2000), and there is a great deal of overlap among the models. The dimensions of this study compare well with those of other models and provide an encompassing construct of organisational climate. In addition, they include dimensions, such as diversity management, that are applicable to the South African environment – hence the use of this model in this research. This leads to the first hypothesis of the research.

Hypothesis 1: A 12-factor structure underlies the organisational climate questionnaire in accordance with the 12 identified dimensions of the climate-measuring instrument. Table 2 summarises these dimensions.

Job satisfaction

According to Cranny, Smith and Stone (1992), job satisfaction can be defined as an affective or emotional reaction that an employee has towards a job that is the result of his or her comparison of actual outcomes with expected or deserved outcomes. Job satisfaction has also been defined in terms of attitudes that individuals have towards their jobs (Weiss, 2002). Schneider and Snyder (1975) define job satisfaction as a personal evaluation of the current conditions of the job or the outcomes that arise as a result of having a job. Sempane, Rieger and Roodt (2002) appear to agree with this definition, stating that job satisfaction refers to the individual's perception and evaluation of the job. According to these authors, the individual's perception is influenced by his or her unique circumstances such as needs, values and expectations. Therefore jobs are evaluated by people on the basis of factors that are important to them. Although the definitions of job satisfaction are varied, it is generally considered to be an attitude or feeling that one has about one's job that is either positive or negative.

According to Locke (1976), for researchers to have a clear understanding of job attitudes, they need to know the various factors that have an influence in the job. Research indicates that these factors can be divided into two distinct dimensions, namely extrinsic and intrinsic (Buitendach & De Witte, 2005).

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Extrinsic dimensions form part of the job situation, are influenced by others and are beyond the employee's control (Lawler, 1976). Examples are factors such as the work itself, pay, promotion opportunities, working conditions, supervision and co-workers. Intrinsic rewards are self-regulated and a direct result of the individual's performance. Lawler (1976) explains that intrinsic rewards satisfy higher-order needs, for example feelings of accomplishment and achievement and the satisfaction of utilising one's skills and abilities. Robbins, Odendaal and Roodt (2003) point out that intrinsic factors, such as advancement, recognition, responsibility and achievement, appear to be related to job satisfaction.

Job satisfaction can be measured in two ways – namely, by the facet approach or the global approach. The former refers to assessing how employees feel about various aspects of the job such as rewards (pay or fringe benefits), job conditions, people on the job (supervisors and co-workers) and the work itself (Robbins, 1998; Spector, 2005). The latter approach measures job satisfaction by directly asking individuals how they generally feel about their jobs (Fincham & Rhodes, 2005; Robbins *et al*., 2003; Spector, 2005).

This study defined job satisfaction as the feeling individuals have about their jobs. Hence this research was concerned with measuring the affective aspect of job satisfaction using the global approach.

Organisational climate and job satisfaction

There are numerous studies investigating the relationship between organisational climate and job satisfaction, with many researchers finding evidence to support the relationship between the two constructs (Field & Abelson, 1982; Friedlander & Margulies, 1969; LaFollette & Sims, 1975; Litwin & Stringer, 1968; Pritchard & Karasick, 1973; Schneider & Snyder, 1975).

In a review of studies investigating organisational climate and job satisfaction, Peek (2003) found that organisational climates that exhibit characteristics such as having a high degree of autonomy, providing opportunities for employees, nurturing relationships among employees, showing interest in and concern for their employees, recognising employees' accomplishments and holding employees in high regard result in more satisfied workers. Similarly, Brief (1998) found that salary, benefits and advancement opportunities were components of organisational climate that had a direct influence on job satisfaction.

In summary, organisational climate and job satisfaction are distinct but related constructs (Al-Shammari, 1992; Keuter, Byrne, Voell & Larson, 2000). Organisational climate is focused on organisational/institutional attributes as perceived by organisational members, while job satisfaction addresses perceptions and attitudes that people have towards and exhibit about their work.

Although a recent study conducted in a South African call centre found job satisfaction to be strongly correlated to organisational climate (Fisher, Milner & Chandraprakash, 2007), studies investigating the relationship between organisational climate and job satisfaction are less frequent in the literature today, especially in South Africa. A possible explanation could be that studies tend to focus more on organisational culture (Sempane *et al*., 2002).

Flowing from the above discussion, the following hypotheses were formulated:

Hypothesis 2: There is a strong positive relationship between the dimensions of organisational climate and job satisfaction.
Hypothesis 3: Organisational climate dimensions that are perceived as being personal to or having a direct impact on the individual have a greater influence on job satisfaction than organisational climate factors that are perceived as being external to or influencing the individual indirectly.

Research objectives

The aim of this study was to investigate the relationship between organisational climate and job satisfaction in an information and communication technology (ICT) organisation in South Africa.

The methodology and the statistical approach used will be discussed next. This will be followed by a discussion of the results and an indication of whether the results support the stated hypothesis.

RESEARCH DESIGN

Research approach

The research approach can be described as a descriptive, cross-sectional field survey, the data as primary data and data analysis as exploratory and correlational. Questionnaires were completed electronically and handled anonymously. The medium used was the intranet, which makes it possible for surveys to be conducted effectively and efficiently. The primary reason for utilising this approach was time and cost savings as well as the geographical location of employees.

Research method

Research participants

The non-probability (convenience) sample consisted of 696 employees from three regions of an ICT organisation in South Africa, yielding a response rate of 47.9%. The target population can be described as all professional, management, technical, support and administrative personnel (i.e. white-collar workers) (n=1453) in three regions of the organisation, irrespective of their current employment status (permanent or contract). The unit of analysis was each employee, regardless of his or her status in the various departments and across the three regions. This enabled the researcher to achieve a diverse offering in terms of the employees in these regions of the organisation. Table 3 indicates the biographical details of the respondents.

The sample consisted of 63.4% (n = 441) men and 35.8% (n = 249) women. Of the sample, 75.9% (n = 528) consisted of white respondents. African, Coloured and Indian respondents made up only 23.1% of the sample (n = 160). The majority of respondents in the sample had worked for the organisation for six to ten years, representing 26.4% (n = 184) of the sample. The least represented category was for four to five years, with only 9.5% (n = 66) respondents falling in this category. Of the respondents, 145 (20.8%) had been with the organisation for one year or less while 151 respondents (21.7%) had been employed there for at least three years. Employees who had been with the organisation for 11 years or more constituted 21,3% (n = 148) of the sample. Of the sample, 68% (n = 473) were employed at clerical, supervisory or junior management level, 19% (n = 129) at middle or senior management level and 3% (n = 21) at executive level. Table 3 also indicates that most of the sample respondents – 67.1% (n = 467) – were permanently employed with the organisation, with the balance of 22.6% (n = 157) represented by project consultants. Of the respondents, 52.7% (n = 367) were employed in the Johannesburg region, 37.4% (n = 260) were from the Pretoria region and 9.9% (n = 69) of the sample represented the client site region. Finally, Table 3 indicates that 22.3% (n = 155) of the respondents had attended the diversity awareness training whereas 14.8% (n = 103) had not.

Measuring instrument

One measuring instrument was utilised to measure both variables in this study. The instrument that was used was a previously validated climate questionnaire (Martins & Von der Ohe, 2006) that was adapted or rephrased to fit in with the information technology (IT) environment specifically for this study. The questionnaire measured overall organisational climate as well as the different components or dimensions of organisational climate that could impact on job satisfaction. The

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TABLE 3
Distribution of participants according to biographical and organisational variables

Variable	*N*	%
Gender		
Male	441	63.4
Female	249	35.8
Missing values	6	0.8
Race		
African	102	14.7
Coloured	22	3.2
Indian	36	5.2
White	528	75.8
Missing values	8	1.1
Tenure		
0–1 year	145	20.8
2–3 years	151	21.8
4–5 years	66	9.5
6–10 years	184	26.5
11+ years	148	21.3
Missing values	2	0.1
Job level		
Clerical, supervisory & junior management	473	68.0
Middle & senior management	129	18.6
Executive	21	3.0
Missing values	73	10.4
Employment status		
Permanent	467	67.1
Project consultants	157	22.6
Missing values	72	10.3
Region		
Johannesburg	367	52.7
Pretoria	260	37.4
Client site	69	9.9
Diversity awareness training		
Yes	155	22.3
No	103	14.8
Missing values	438	62.9

original questionnaire was adapted (by reviewing statements) by conducting focus groups and holding interviews with key stakeholders, the human resource executive and the regional human resource managers.

The organisational climate questionnaire consisted of 70 items used to measure 12 dimensions of organisational climate (see Table 2). The questionnaire utilised a Likert-type scale in which the individual was presented with five alternative responses for each statement, ranging from strongly disagree (1) to strongly agree (5). All items were positively scored and the final score for each dimension was obtained by acquiring a mean score for each dimension. The levels of reliability and validity estimated in the current study are reported in the results section in this article.

Research procedure

Permission to conduct the research in each region was obtained from the business executive concerned. Thereafter an invitation was sent out via e-mail to the 1453 potential participants, requesting their participation in the electronic survey. A URL link that directed potential respondents to the survey instrument was provided in the invitation letter. The questionnaire took between 20 and 30 minutes to complete and all the responses were submitted anonymously.

Statistical analysis

The following statistical analyses were conducted by means of the SPSS version 16.0 computer package: exploratory factor analysis, item analysis, correlation analysis and step-wise linear regression. A confirmatory factor analysis was then conducted using the AMOS 7.0 package.

RESULTS

Organisational climate and job satisfaction

The organisational climate questionnaire was used to measure the climate of the organisation. The descriptive statistics, with specific reference to mean, standard deviation, skewness and kurtosis, are presented in Table 4 and were computed for the various dimensions assessed by the questionnaire. In addition, the table provides Cronbach's alpha coefficients for each dimension and the total scale. All the Cronbach alpha scores are above 0.8 with only work environment below 0.6. According to Nunnally (1967), a suitable criterion for instruments in the early stages of development is regarded as between 0.5 and 0.6, although for established scales it would typically be about 0.7. It was thus decided to include all dimensions in the further analysis.

The mean scores were used to summarise the climate in the organisation. For the purposes of this study, the recommended cut-off score of 3.2 (on a scale of 1–5, strongly disagree to strongly agree) was used to differentiate between potential positive and negative perceptions (Odendaal, 1997), with scores above 3.2 indicating a positive perception and scores below 3.2 indicating a negative perception of that dimension. Research by the HSRC indicates that an average of 3.2 is a good guideline to distinguish between positive and potential negative perceptions.

From Table 3, it is clear that the climate facet means in the organisation can be defined as positive, with a mean score of 3.56 across facets. The results indicated that the employees were mostly satisfied with the various aspects of the organisation measured by the 11 climate dimensions and the job satisfaction dimension, because all except two dimensions yielded means over the 3.2 cut-off point. The results of the training and development (3.11) and remuneration and reward (2.77) dimensions indicated that employees perceived training and development opportunities in the organisation negatively and also considered remuneration and reward practices to be negative (all below the 3.2 cut-off point). Hence, these dimensions could be considered as future areas of development for the organisation. The job satisfaction of the organisational members was also measured. This was achieved by employing the global approach, whereby certain questions were asked to elicit affective responses about the employees' jobs. The results indicated that the respondents were satisfied with their jobs (3.36), found their work interesting and challenging and perceived their future in the organisation positively.

Table 4 also provides the reliability statistics of the scales of the questionnaire. The alpha coefficients of 11 of the dimensions ranged from 0.81 to 0.89, indicating internal consistencies within the recommended range. The work environment scale, however, appeared to have an unacceptably low reliability (0.59). This alpha value suggests that the items in this scale did not correlate strongly with other items in this scale or with the total work environment scale and consideration should be given to including additional items to or removing some items from this dimension.

A confirmatory factor analysis, using AMOS 7.0, was performed to investigate whether the evidence supported a model of the original 12-factor dimensions of the questionnaire. The results illustrated that most of the indices were wide of their respective recommended values, thereby indicating a lack of fit for the 12-factor model in question. The fit indices used in this analysis included the comparative fit index (CFI), Tucker Lewis index (TLI), parsimony normed fit index (PNFI), parsimony comparative fit index (PCFI) and root mean square of approximation (RMSEA). The chi-square statistic (χ^2) (CMIN), that is the comparison between the observed covariance to the hypothesised covariance or model fit computed for the 12-factor

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TABLE 4
Descriptive statistics and reliability of scales of the organisational climate questionnaire

Dimension	*N*	Mean	SD	Skewness	Kurtosis	Cronbach's alpha
Trust	695	3.67	0.82	-0.584	0.128	0.892
Training & development	695	3.11	0.84	-0.271	-0.452	0.875
Transformation and diversity	696	3.59	0.66	-0.362	-0.247	0.868
Job satisfaction	694	3.36	0.86	-0.370	-0.128	0.812
Leadership	696	3.83	0.69	-0.796	1.001	0.914
Employee wellness	691	3.72	0.75	-0.837	1.219	0.826
Communication	692	3.50	0.80	-0.567	0.376	0.880
Performance management	692	3.42	0.82	-0.512	0.125	0.832
Remuneration & reward	687	2.77	0.99	-0.271	-0.497	0.854
Teamwork	693	3.80	0.65	-0.587	1.040	0.838
Work environment	691	3.59	0.96	-0.684	0.084	0.596
Organisation's image	693	3.81	0.78	-0.650	0.761	0.838

TABLE 5
Fit indices for the comparative models of the organisational climate questionnaire

Fit statistics	Cut- off	Hierarchical 12-factor model		Three-factor model	
		Original	Revised	Hierarchical	Oblique
Normed CMIN (χ^2/df)	2.0-3.0	2.66	2.256	2.949	2.949
CFI	0.9	0.76	0.82	0.73	0.73
TLI	0.9	0.74	0.80	0.71	0.71
PNFI	0.9	0.62	-	0.60	0.60
PCFI	0.9	0.71	-	0.68	0.68
RMSEA	0.006	0.074	0.06	0.08	0.08

model, was 6197.624. The goodness of fit indices for the CFI and TLI were 0.603 and 0.58, respectively, which were both far below 0.9, the acceptable level of fit (Hu & Bentler, 1999). The fit indices of the PNFI and PCFI, 0.5 and 0.57, respectively, were also much lower than the acceptable 0.9. Steiger's RMSEA of 0.095 fell well beyond the acceptable level of 0.06. Hypothesis 1 was therefore not supported.

Because of the lack of fit obtained with the 12 dimensions of the original organisational climate questionnaire, an exploratory factor analysis (EFA) was conducted to investigate the underlying factor structure of the questionnaire. It was expected that these 12 dimensions would be distinct from one another and that the job satisfaction scale would be loaded independently from the other 11 dimensions of the questionnaire. The EFA was conducted using the principal axis factoring technique with an oblique promax rotation. The Kaiser criterion, which specifies that only factors with eigenvalues of 1.00 or greater should be retained and the so-called 'scree test' were used as a guide to determine the number of factors to extract. Using Kaiser's criterion, 12 factors were extracted, explaining 60.23% of the total variance. However, since the 12th factor accounted for only 1.35% of the total scale variance and had only one item with a factor loading higher than 0.3, it was decided to retain 11 factors only. The scree test identified three factors, explaining 44.21% of the total variance.

On the basis of the strength of the Kaiser criterion and the scree test results, it was decided to conduct a confirmatory factor analysis (CFA) to compare these models with the fit indices revealed by the original assessment to indicate the best fit. The following fit indices were used: normed chi-square adjustment (χ2/df), CFI, TLI, PNFI, PCFI and RMSEA.

Table 5 indicates that the three-factor models (hierarchical and oblique) and the original 12-factor model, although a better fit, did not fit the data well. The normed chi-square adjustment for both models was above the recommended ratio of 2.0 for good fit (Tabachnick & Fiddell, 2001). The CFI and TLI yielded poor fit with values lying below the acceptable level of 0.95 (Hu & Bentler, 1999) and the PNFI and PCFI also reported values lower than the acceptable level of 0.90. The RMSEA values for both models were higher than the 0.05, value but within the acceptable level of less than 0.08. The revised 12-factor model (after the CFA) (11 dimensions) fitted the data best: $\chi^2 = 5264.65$, CFI = 0.82, TLI = 0.80 and RMSEA = 0.06.

The researchers therefore decided to proceed with the revised 12-factor model (11 dimensions) for further analysis. After inspecting the items that loaded meaningfully, the 11 dimensions were labelled (with alpha values in brackets): leadership of immediate manager (0.97), transformation and diversity (0.85), personal growth and development (0.87), interpersonal belonging and fit (0.87), general feeling of job satisfaction (0.89), employee wellness (0.85), image (0.84), pay (0.85), challenging and interesting work (0.85), physical work environment (0.59) and recognition and acknowledgment (0.82). The Cronbach alpha coefficient for all 11 dimensions was found to be satisfactory, all above 0.8.

One of the objectives of this study was to determine whether there was a strong positive relationship between organisational

TABLE 6
Correlation between organisational climate dimensions and job satisfaction

	Lead	T & D	PG & D	IB & F	Gen. JS.	EE Well.	Image	Pay	C & I Work	WE	R & A
Lead	1.000	-	-	-	-	-	-	-	-	-	-
T & D	0.431**	1.00	-	-	-	-	-	-	-	-	-
PG & D	0.551**	0.548**	1.00	-	-	-	-	-	-	-	-
IB & F	0.567**	0.348**	0.390**	1.00	-	-	-	-	-	-	-
Gen. JS.	0.667**	0.548**	0.680	0.483**	1.00	-	-	-	-	-	-
EE Well.	0.478**	0.345**	0.365**	0.307**	0.484**	1.00	-	-	-	-	-
Image	0.426**	0.426**	0.455**	0.340**	0.599**	0.342**	1.00	-	-	-	-
Pay	0.234**	0.234**	0.244**	0.164**	0.424**	0.254**	0.275**	1.00	-	-	-

Key: Lead = leadership of immediate manager; T & D = transformation and diversity; PG & D = personal growth and development; IB & F = interpersonal belonging and fit; Gen. JS. = general feeling of job satisfaction; EE Well. = employee wellness; C & I Work = challenging and interesting work; WE = physical work environment; R & A = recognition and acknowledgement.
*Significant at the 0,5 level; **Significant at the 0,000 level.

climate and job satisfaction. Pearson's product–moment correlation was used for this analysis. The findings of this research indicated that there was a strong positive correlation between the two variables ($r = 0.813$, $n = 696$, $p = 0.000$). In terms of the practical significance guidelines provided by Cohen (1988), the relationship between the total organisational climate variable and total satisfaction variable is a large effect size. Hypothesis 2 was therefore supported.

The Pearson product–moment correlation coefficients were also computed among the 11 dimensions. During the analysis of the items and factors, it was found that some dimensions had a personal or direct influence on the individual and others an indirect influence on the individual. The dimensions considered to have a personal influence on the individual included the following:

- personal growth and development
- interpersonal belonging and fit
- employee wellness
- challenging and interesting work.

The dimensions considered to have an indirect influence on the individual included the following:

- leadership of immediate manager
- transformation and diversity
- image
- pay
- physical work environment
- recognition and acknowledgment.

The results reported in Table 7 indicate that organisational climate dimensions that were grouped together as personal factors or factors with a direct influence on the individual as well as organisational climate dimensions that were grouped together as being external to or influencing the individual indirectly were positively and statistically related (at the 0.01 level) to a general feeling of job satisfaction. In terms of the practical significance guidelines, these variables yielded effect sizes ranging from medium to large.

The hypothesis that organisational climate dimensions that are perceived to be personal to or have a direct impact on the individual will have a greater influence on job satisfaction than organisational climate factors that are perceived as being external to or influencing the individual indirectly was investigated by means of the calculation of a stepwise linear regression. As indicated in Table 9, using the stepwise estimation technique, nine variables (model 9) predicted 70.9% of variance in job satisfaction. All of the models, including model 9, were statistically significant. The reasons for using the stepwise regression estimation technique were that as an exploratory technique it is seen as a model-building rather than a model-testing procedure and it was also used to support the previous analysis such as the correlation and CFA. Standard multiple regression analyses were conducted because our interest was not in finding prediction equations for predicting the coping styles of our sample. Rather, our interest was in assessing the magnitude of the correlations between the dependent and independent variables and in assessing the magnitude of the overall relationship between the dimensions and the independent variables. Standard multiple regression also enabled us to assess how much each independent variable uniquely contributed to the overall relationship because the independent variables were evaluated in terms of how much they added to the prediction of the coping styles, which differed from the percentage of variance accounted for by the combination of all the other independent variables.

Table 9 presents all the variables included in model 9 and their contribution to predicting job satisfaction. The beta value provides information on the contribution of each independent variable. The largest value contributes the most.

From Table 8, it is clear that an organisational climate dimension perceived as personal to the individual (personal growth and development) has the largest beta coefficient of 0.224, therefore contributing the most to explaining job satisfaction when the variance explained by all the other variables in the model is controlled. Organisational climate factors that are perceived as external to the individual, for example leadership of the immediate manager, image and pay, also contribute strongly to explaining job satisfaction. On the basis of the results in Table 8, hypothesis 3 was therefore partially supported.

DISCUSSION

Interpretation and conclusion

The main purpose of the study was to investigate the relationship between organisational climate and job satisfaction. The results of this study reported a strong positive relationship between the two variables ($r = 0.813$). The findings of this study thus support hypothesis 2, which postulated a positive relationship between organisational climate scores and job satisfaction scores. These results were consistent with those of previous studies investigating the climate/satisfaction relationship (Field & Abelson, 1982; Fisher *et al*., 2007; Peek, 2003; Schneider & Snyder, 1975).

The dimensions of the organisational climate questionnaire correlated strongly with one another and with the job satisfaction scale, which is a possible indication of overlap between the dimensions or lack of clarity of the factors. A CFA was conducted on the original questionnaire and the results indicated a poor fit. Subsequent analysis (EFA and CFA) showed that the 12-factor model (11 dimensions) fitted the data best. Hence, this model was used to analyse the rest of the data. Hypothesis 1 was therefore rejected. A possible reason for the decrease in factors is that organisational climate is unique to every organisation and the respondents in this sample interpreted the items differently. The fact that the questionnaires were in English could have also contributed to the misinterpretation of questions.

TABLE 7
Model summary⁺ of explained variance in job satisfaction

Model	Variables entered	R^2	Adjusted R^2	*F*-value	*p*
1	Personal growth & development	0.463	0.462	586.869	0.000**
2	Personal growth & development, leadership	0.585	0.584	479.875	0.000**
3	Personal growth & development, leadership, image	0.648	0.646	416.055	0.000**
4	Personal growth & development, leadership of immediate manager, image, pay	0.682	0.680	363.835	0.000**
5	Personal growth & development, leadership, image, pay, recognition & acknowledgement	0.694	0.692	307.278	0.000**
6	Personal growth & development, leadership of immediate manager, image, pay, recognition & acknowledgement, transformation & diversity	0.704	0.701	268.099	0.000**
7	Personal growth & development, leadership of immediate manager, image, pay, recognition & acknowledgement, transformation & diversity, physical work environment	0.709	0.706	234.660	0.000**
8	Personal growth & development, leadership of immediate manager, image, pay, recognition & acknowledgement, transformation & diversity, physical work environment, challenging & interesting work	0.711	0.708	207.557	0.000**
9	Personal growth & development, leadership of immediate manager, image, pay, recognition & acknowledgement, transformation & diversity, physical work environment, challenging & interesting work, employee wellness	0.713	0.709	185.938	0.000**

⁺Dependent variable: General satisfaction; **Model is significant at the 0,000 level, p < 0,0005.

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TABLE 8
Coefficients for the independent variables of model 9

Variable	Beta	*p*-value
Personal growth & development	0.224	0.000**
Leadership of immediate manager	0.216	0.000**
Image	0.181	0.000**
Pay	0.177	0.000**
Recognition & acknowledgement	0.127	0.000**
Transformation & diversity	0.113	0.000**
Physical work environment	0.073	0.003**
Challenging & interesting work	0.058	0.014*
Employee wellness	0.053	0.035*

* Significant at the 0,5 level; ** Significant at the 0,000 level.

Another aim of this study was to determine whether certain organisational climate dimensions had a greater influence on job satisfaction than other dimensions. It was hypothesised that the dimensions perceived as personal to the individual would have a greater influence on job satisfaction. The results of the stepwise linear regression indicated that the dimension with the highest impact could be perceived as personal to the individual. However, the dimensions perceived as indirectly affecting the job satisfaction of individuals also contributed significantly to job satisfaction. Hypothesis 3 was therefore partially supported. These results were in line with those of other studies in which various dimensions, regardless of how they are perceived, were shown to have an influence on job satisfaction (Peek, 2003).

Limitations and recommendations

This research study was conducted in a single organisation and therefore cannot be generalised to other ICT organisations or to the rest of the South African workforce. In addition, only three regions were used in this study and hence the results cannot be generalised to the entire organisation. Since no norm groups existed, it was impossible to compare the findings of this study with other organisational climate studies conducted in South Africa. The portability of the measuring instrument can also be regarded as a limitation, because the instrument was adapted for a specific climate and therefore may not be suitable to use in other organisations. The questionnaire included a global approach to investigating the affective responses to job satisfaction only, thereby excluding cognitive and behavioural components of job satisfaction, limiting comparisons of findings to other studies that investigated all three components of the job satisfaction attitude.

Implications for practitioners and future research

This study provided support for the view that line managers and human resource practitioners should be aware that different biographical groups have different needs that can influence their job satisfaction levels and different perceptions of the climate within the organisation and that this impacts on their behaviour. One could speculate that organisations that understand their employees and are aware of what they need create an environment in which employees can thrive and be creative and productive – all characteristics of successful organisations.

The final recommendation relating to the conclusions of this research is that further studies be conducted to explore the relationship between organisational climate dimensions that are perceived as being internal to or having a direct influence on the employee and organisational dimensions that are perceived as being external to or having an indirect influence on employee satisfaction levels.

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TABLE 9
Total variance explained for the 12-factor model after extraction
(excluding factor with eigenvalues lower than 1)

		Initial eigenvalues			Rotation sums of squared loadings[a]		
Factor	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total
1	25.082	35.831	35.831	24.718	35.312	35.312	22.014
2	4.878	6.969	42.801	4.498	6.425	41.737	11.001
3	2.457	3.510	46.310	2.122	3.032	44.769	14.258
4	2.408	3.440	49.750	2.026	2.894	47.663	11.087
5	2.090	2.986	52.736	1.691	2.415	50.078	17.376
6	1.860	2.657	55.393	1.491	2.129	52.207	8.230
7	1.723	2.462	57.855	1.376	1.966	54.174	5.621
8	1.489	2.127	59.982	1.131	1.616	55.789	4.402
9	1.290	1.843	61.825	0.896	1.280	57.069	5.568
10	1.251	1.787	63.612	0.841	1.202	58.271	8.943
11	1.173	1.675	65.287	0.749	1.070	59.340	12.189
12	1.083	1.547	66.834	0.893	0.893	60.233	1.352

Extraction method: Principal axis factoring
[a] When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

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