Southern African Business Review

Volume 10 number 2
August 2006

ISSN 1561 896 X

Policy

The *Southern African Business Review* is a refereed and accredited scientific journal of the College of Economic and Management Sciences of the University of South Africa (Unisa). The journal was first published in 1997 to serve as a vehicle for the publication and dissemination of research of a high standard in the fields of the economic and management sciences, including accountancy and related subjects.

Linguistic and Technical Advisor

Submissions and correspondence to

Ms Erna Koekemoer
Bureau of Market Research, P.O. Box 392, Unisa 0003, South Africa
Tel: +27 12 429-3228 Fax: +27 12 429-3170
E-mail: koekeem@unisa.ac.za Website: www.unisa.ac.za/sabusinessreview

Cover design by Unisa Press
Printing by Unisa Production Printers

ISSN 1561 896 X *Southern African Business Review*

Southern African Business Review

Volume 10 number 2
August 2006
ISSN 1561 896 X

CONTENTS

Research articles

Occupational stress of engineers in South Africa 1
S. Rothmann & M.M. Malan

Best practice relationship with service quality in a home entertainment franchised system 17
A. Maritz & G. Nieman

Size estimate of the informal sector in South Africa 32
A.A. Ligthelm

Work–home interaction as partial mediator between job resources and work engagement 53
K. Mostert

The projected household consumption expenditure impacts of HIV/AIDS in South Africa, 2003-2015 75
C.J. van Aardt

Service quality in the motor vehicle industry in South Africa: an exploratory study 97
A. Berndt & F. Herbst

Diversification in property investment performance reporting in South Africa: theory versus practice 111
V.G. Ghyoot

Detecting sub-cultures in an organisation 130
N. Martins & H. von der Ohe

Motivating factors of local residents for attending the Aardklop National Arts Festival 150
C. van Zyl

The *Southern African Business Review* is a publication of the College of Economic and Management Sciences, University of South Africa.

Occupational stress of engineers in South Africa

S. Rothmann & M.M. Malan

ABSTRACT

The objectives of this study were to assess the occupational stressors of engineers in South Africa as well as the relationships between occupational stress, organisational commitment, and physical and psychological ill-health. A cross-sectional survey design was used. The sample consisted of (N = 369) engineers in South Africa. The ASSET questionnaire was administered. Compared to normative data, participants reported lower levels of physical ill-health but higher psychological outcomes of stress. The most important stressors identified were work–life balance and work overload. Three occupational stressors, namely work overload, work–life balance and control, were the best predictors of physical and psychological ill-health. Occupational stressors and low organisational commitment explained 18% and 24% respectively of the variance in physical and psychological ill-health.

INTRODUCTION

Occupational stress has become one of the most serious health issues in the modern world (Lu, Cooper, Kao & Zhou 2003). The Health and Safety Executive (2001) in the United Kingdom describes how ill-health (both physical and mental) can result if stress is prolonged or intense. According to Johnson & Cooper (2003), workplace stress and its potentially negative impact on employees have been well documented. However, the negative impact of stress on employees is only part of the problem, since the organisation itself can also expect to experience negative outcomes. Workplace stress can lead to increased medical costs, higher rates of absenteeism and turnover, more accidents and poorer performance (Sui 2003).

Stress is not a factor that resides in the individual or the environment; rather, it is embedded in an ongoing process that involves individuals interacting with their environments, making appraisals of those encounters and attempting to cope with the issues that arise. At the heart of the transactional definition is the idea that stress is a dynamic cognitive state (Cooper, Dewe & O'Driscoll 2001). It is a disruption in homeostasis or an imbalance that gives rise to a requirement for resolution of that

Prof. S. Rothmann and Dr. M.M. Malan are in the WorkWell: Research Unit for People, Policy and Performance, North-West University, Potchefstroom. E-mail: bpksr@puk.ac.za

imbalance or restoration of homeostasis (Dewe 1993). Stress occurs when the magnitude of the stressor exceeds the individual's capacity to cope (Sui, Spector, Cooper, Lu & Yu 2002).

The current research studies the occupational stress of engineers. It presents an appealing context for the study of occupational stress resulting from the extremely high job demands that engineers face. APESMA (2000) reports that more than a quarter of the respondents (engineers) in a survey they conducted believed that there had been an increase in health problems as a result of their working lives. The most common ailments they identified were related to excessive workloads, such as constant tiredness (60%) and stress (70%). According to Lingard (2003), companies operate in a highly competitive market with relatively low profit levels, completing construction projects within tight deadlines and budget constraints. Given the threat of significant penalties for time overruns, work hours are often long and sometimes irregular. A recent survey confirmed that Australian engineers experience considerable time-related work pressures (APESMA 2000).

Increased productivity and change in the workplace have become an integral part of an engineer's working life. Engineers' key performance areas are structured by the company according to the business needs. It is possible that many engineers feel that their skills and expertise are not fully utilised, which may lead to career frustration. Many engineers enter the world of work with great career expectations, but many organisations do not focus on potential development. The individual is thus not afforded the opportunity to use acquired skills or to develop full potential ability (Cooper et al. 2001). According to Karasek & Theorell (1990), it is not the demands of work itself but the organisational structure of work that plays the most consistent role in the development of stress-related illness.

The consequences of these factors may be far-reaching, not only for engineers themselves, but also for the organisation. According to Garland (2002), the high cost of hiring and training recruits to fill vacated positions will take its toll on the budget. Organisations could also experience further indirect costs as a result of stress, for example low morale, low job satisfaction, faulty decision-making, aggression and violence among workers (Johnson & Cooper 2003). Stress can also have an impact on young talented people. According to Garland (2002), newcomers fresh out of college, filled with dreams and lofty ambitions, can soon be trampled by bureaucratic policies. The letdown of realising that one's career expectations were over-inflated can dishearten a new recruit so profoundly that he/she spirals rapidly into burnout. According to Sui (2003), work stress can lead to increased health costs, higher rates of absenteeism and turnover, more accidents and poorer performance. The implication of this is that a promising career could end. Garland (2002) confirms that the initial barrage of stress and strain can be overwhelming and could lead to premature exit.

Stress does not always result directly from the source of pressure itself, but rather from the perception of that pressure. The individual difference variables that might

relate to perceptions should therefore be considered (Sui 2003). Jex (1998) argues that across all stressors and performance dimensions, the relation between stress and job performance is not particularly strong. Instead, he suggests looking for more moderators of the stress–performance relationship. A moderator is a third factor that exerts an influence on the zero-order correlation between two variables (Cooper et al. 2001).

Sources of occupational stress among other occupations cannot be generalised to engineers. It is therefore important to study the effects of occupational stress on engineers and to identify occupational stressors. In the light of the foregoing discussion, the lack of empirical research into occupational stress of engineers in South Africa is a matter of concern. No previous South African studies of work stressors and their effect on engineers could be found.

Occupational stress

The phrase 'being under stress' is one that most people can identify with, although it can mean different things to different people. This expression focuses not so much on the nature of stress itself but on its outcomes or consequences (Cooper et al. 2001). Cooper et al. define the concepts of strain, stressors and stress as follows: stress is the overall transactional process, stressors are the events or stimuli that are encountered by individuals, and strain is the individual's psychological, physical and behavioural response to stressors.

The experience of stress reactions in the workplace is not an isolated phenomenon (Fletcher 1988). A number of aspects of working life have been linked to stress. Aspects of the work itself can be stressful, namely work overload (DeFrank & Ivancevich 1998; Sparks & Cooper 1999; Taylor, Repetti & Seeman 1997) and role-based factors such as lack of power, role ambiguity and role conflict (Burke 1988; Nelson & Burke 2000). Threats to career development and achievement – including threat of redundancy, being undervalued and unclear promotion prospects – are stressful (Nelson & Burke 2000). The physical demands of work surroundings and the distress caused by noise, vibration and extremes of temperature are some of the earliest forms of stressors that were investigated by organisational psychologists and other researchers in the field (Cooper et al. 2001). The conflict between home and work (and the work impact on personal relationships) is stressful (Sparks & Cooper 1999).

A number of conceptual models have been developed that relate job characteristics to the health and well-being of working populations (Cooper 1998). According to Kitaoka-Higashiguchi et al. (2003), models of occupational stress have focused on specific functions of social support that contribute to occupational stress and employee well-being. The occupational stress model most frequently used is that

of demand-control. The original demand-control model developed by Karasek (1979) was later expanded by him to include social support based on research focusing on the impact of social support on well-being.

The job demand-control model is also referred to as the strain hypothesis (Pelfrene et al. 2002). Cooper et al. (2001) define strain as the individual's physical, psychological and behavioural response to stressors. The demand-control model predicts that the strongest aversive job-related strain reactions (such as depression, exhaustion and health complaints) occur when jobs are simultaneously high in job demands, low in decision latitude and low in workplace social support (Kitaoka-Higashiguchi et al. 2003). This is supplemented by the learning hypothesis, stating that high job demands in combination with high job control will favour learning, motivation and development of skills.

The identification of major sources of stress in the workplace can significantly benefit management and employees. Firstly, it could lead to changes in the work environment that reduce stress and increase productivity, and secondly, it could facilitate the development of effective interventions that could reduce the already-mentioned negative effects of work stress (Spielberger & Vagg 1999). Stress does not always result directly from the source of pressure itself, but rather from the perception of that pressure. Individual differences that might relate to perceptions should also be considered (Jex 1998). It is therefore important to identify the potential occupational stressors for engineers and to find out which have beneficial consequences for both employees and organisations.

Cartwright & Cooper (2002) distinguish between seven occupational stressors as sources of stress, namely work relationships (such as poor or unsupportive relationships with colleagues and/or superiors, isolation and unfair treatment), work–life imbalance (when work interferes with the personal and home life of individuals), overload (unmanageable work loads and time pressures), job security (fear of job loss or obsolescence), control (lack of influence on the way work is organised and performed), resources and communication (having the appropriate training, equipment and resources), pay and benefits (the financial rewards that work brings) aspects of the job (sources of stress related to the fundamental nature of the job itself). Commitment (including the individual's commitment to the organisation and the organisation's commitment to the individual) refers to an effect of stress. Poor health is an outcome of stress, which can be used to ascertain whether workplace pressures have positive and motivating or negative and damaging effects. However, poor health may not necessarily be indicative of workplace stress. Individuals may, for example, be unwell because they choose not to lead a healthy lifestyle or may be unaware of how to do so (Cartwright & Cooper 2002).

Engineers often do not have enough time to do their work well because of unmanageable workloads. The sheer number of hours that a person works can produce strain (Cooper et al. 2001). Engineers are often required to work overtime,

even over weekends. This could interfere with an engineer's home and personal life. In some fields of engineering, there is a continual need for safety, and in some cases the engineers themselves are held legally responsible for that. A continued emphasis on the need for safety in a hazardous environment may be an even greater source of strain than the hazards themselves. Too much responsibility for other people's lives and safety is a major source of psychological strain (Cooper et al. 2001). Engineers are fast-track individuals who have great expectations and ambition for their careers because of their specialist knowledge and expertise. Their goals and expectations are sometimes not aligned with those of the companies they work for. Prolonged exposure to such job demands will result in strain (Taris, Schreurs & Van Iersel-Van Silfhout 2001). Consequently, people could develop health problems. Indicators of psychological well-being or distress are depression, fatigue, sleep disorders and the use of drugs (Pelfrene et al. 2002).

Organisational commitment

Stress has been associated with important occupational outcomes of job satisfaction, organisational commitment and employee withdrawal behaviour (Nieumann 1993; Sullivan & Bhagat 1992; Tett & Meyer 1993). According to Cooper (1998), it seems intuitive that stress can lead to a deterioration of employee commitment to the organisation. The possibility that causality may also operate in the opposite direction does not appear to have been given much consideration. Personal characteristics can moderate the relationship between occupational stressors and employees' strains – either strengthening or weakening the potential effects on strains.

Organisational commitment is an attitudinal variable (Sui et al. 2002). Organisational commitment focuses on an employee's allegiance to the organisation that provides employment (Cooper 1998). Meyer & Allen (1990) define organisational commitment as the psychological link between the employee and the organisation that makes it less likely that the employee would want to leave. Organisational commitment has received substantial attention in past research because of its significant impact on work attitudes such as job satisfaction and performance (Dwyer 2001). In previous studies, only the direct association between stressors and their potential outcomes were discussed, but not the factors that may affect the relationship.

Sui (2003) shows that organisational commitment is not only related to most of the physical and psychological outcomes among workers, but also to the moderating affects on the stressor–health relationship. As already mentioned, the stress process depends on the person's role in appraising the stressor, and organisational commitment is a 'person' factor. Sui (2003) argues that the moderating effect of commitment protects individuals from the negative effect of stress, because it enables them to attach direction and meaning to their work.

The objectives of this study were to assess occupational stressors, organisational commitment and ill-health as they relate to engineers and to determine whether occupational stress and organisational commitment are related to ill-health among engineers.

METHOD

Research design

A survey design was used to achieve the research objectives. This specific design is the cross-sectional design, where a sample is drawn from a population at a particular point in time (Shaughnessy & Zechmeister 1997). The measuring instrument used in this study (An Organisational Stress Screening Tool – ASSET) is most often used within a cross-sectional design. It is practically useful for organisations and is not scientifically problematic (Cartwright & Cooper 2002).

Participants

Random samples ($N = 369$) were taken of engineers in South Africa that are professionally registered with the Engineering Council of South Africa (ECSA). Registered professional engineers were randomly identified, and each engineer was asked to complete the questionnaire. Table 1 presents some of the characteristics of the participants.

The sample consisted mostly of males (94.79%), which is representative of the gender spread of the population in engineering. Almost half of the participants (45.23%) had postgraduate education. The mean age of participants was 45.68 years ($SD = 12.93$), while the mean length of work experience in the field of engineering was 20.96 ($SD = 12.49$) years.

Measuring instrument

An Organisational Stress Screening Tool (ASSET) (Cartwright & Cooper 2002) was used to measure occupational stress in this study. The ASSET is based on the stress model of Cooper & Marshall (1976). It is also designed to recognise additional factors, such as job satisfaction and organisational commitment, that serve either to exacerbate or moderate stress levels experienced at work (Cartwright & Cooper 2002). The measure is divided into four questionnaires; the first three assess the respondent's perceptions of the sources of pressure and the outcomes of work stress, while the fourth collects biographical information. Table 1 displays the subscales measured by each section of the questionnaire and the Guttman split-half reliability coefficients for each of these scales – with the exception of both the 'Pay and benefits' scale, which is a single-item scale, and the Supplementary Information section.

Table 1: Characteristics of the participants

Item	Category	Frequency	Percentage
Environment	Mining	53	14.48
	Manufacturing	21	5.74
	Design and construction	56	15.30
	Petrochemical	68	18.58
	Energy and telecommunication	21	5.74
	Consulting	95	25.96
	Other	52	14.21
Job level	Engineer in training	5	1.37
	Junior management	22	6.04
	Middle management	110	30.22
	Senior management (executive level)	116	31.87
	Specialist	35	9.62
	Consulting	61	16.76
	Other	15	4.12
Age	18–27	11	3.02
	28–32	62	17.03
	33–38	46	12.64
	39–44	54	14.86
	45–50	65	17.86
	51–56	53	14.56
	> 56	73	20.05
Race	White	338	92.60
	Black	11	3.01
	Coloured	3	0.82
	Indian	10	2.74
	Other	3	0.82
Education level	Grade 12	2	0.54
	Technical college diploma	2	0.54
	Technikon diploma	8	2.18
	University degree	189	51.50

Item	Category	Frequency	Percentage
	Postgraduate degree	166	45.23
Gender	Male	346	94.79
	Female	19	5.21
Home language	Afrikaans	197	53.97
	English	159	43.56
	African	9	2.45

Questions within the 'Perceptions of your job' and 'Attitudes towards your organisation' scales are answered on a Likert scale, varying from 1 (strongly disagree) to 6 (strongly agree). The 'Your health' scale is answered on a Likert scale, varying from 1 (not at all) to 4 (much more than usual). The tool comprises four main questionnaires. The first three cover sources and outcomes of stress (namely, Perceptions of your job, 37 items relating to eight sources of stress; Attitudes towards your organisation, 9 items measuring commitment levels; and Your health, 19 items measuring the frequency of physical and psychological ill-health symptoms of stress). The fourth questionnaire – Supplementary Information consists of 24 customised items. The ASSET has an established set of norms from a database of responses from 9 188 workers in public and private sector organisations in the United Kingdom.

Reliability is based on the Guttman split-half coefficient. All but two factors returned coefficients in excess of 0.70, and the range was 0.60 to 0.91 (Cartwright & Cooper 2002). The psychological well-being subscale has good convergent validity with an existing measure of psychiatric disorders, the General Health Questionnaire.

Statistical analysis

The statistical analysis was carried out with the help of the SAS Program (SAS Institute 2000). Descriptive statistics (means, standard deviations, skewness and kurtosis) were also computed to describe the data. Cronbach alpha coefficients and their inter-item correlations were used to determine the internal consistency of the measuring instrument (Clark & Watson 1995).

Standard multiple regression analysis was carried out to assess the contribution of the independent variables to physical and psychological ill-health. According to Tabachnick & Fidell (2001), the correlation between an independent variable and a dependent variable reflects variance shared with the dependent variable, but some of the variance may be predictable from other independent variables.

RESULTS

The descriptive statistics, alpha coefficients and mean inter-item correlation coefficients for the factors of the ASSET are reported in Table 2. The ASSET has

an established set of norms from a database of responses from 20 000 workers in public- and private-sector organisations in the United Kingdom. The ASSET presents scores in sten (standardised ten) format. A sten is a standardised score based on a scale of 1–10, with a mean of 5.5 and a standard deviation of 2. The sten system enables meaningful comparison with the norm group. Most people (68%) score between sten 3 and sten 8. Scores that fall further from the mean (either in the high or the low direction) are considered more extreme. About 16% score at the low end, and another 16% score at the high end.

Table 2: Descriptive statistics, alpha coefficients and mean inter-item correlation coefficients of the asset

Item	Mean	Sten	SD	Skewness	Kurtosis	*r*(Mean)	α
Work–life balance	11.59	6	4.58	0.48	-0.28	0.42	0.75
Resources and communication	9.53	1	3.55	0.54	0.11	0.35	0.68
Work relationships	17.58	3	6.06	0.82	0.97	0.36	0.81
Work overload	10.98	5	4.21	0.52	-0.01	0.49	0.79
Job insecurity	9.97	1	3.89	0.75	0.46	0.38	0.71
Job characteristics	16.95	1	5.00	0.45	0.24	0.37	0.70
Control	9.55	1	3.87	0.80	0.61	0.49	0.79
Organisational commitment to the individual	21.87	8	6.19	-0.94	0.23	0.71	0.92
Individual commitment to the organisation	18.47	8	4.33	-1.27	1.62	0.63	0.87
Physical (ill) health	11.59	1	3.64	0.43	-0.29	0.35	0.76
Psychological (ill) health	21.89	10	6.20	0.51	0.09	0.37	0.88

The coefficient alphas for the 14 factors are considered to be acceptable compared to the guideline of 0.70 (Nunnally & Bernstein 1994). However, four scales, namely work relationships, organisational commitment, individual commitment and psychological (ill) health showed an alpha coefficient significantly higher than the guideline of 0.70. The mean inter-item correlations of the factors are well within the guideline of $0.15 < r < 0.50$ (Clark & Watson 1995). These results provide support for the internal consistency of the ASSET for engineers in South Africa.

The results show that work–life balance is the highest stressor for engineers. The second highest stressor is work overload. The level of the stressor is indicated by the dimensional values, with higher scores correlating to higher levels of stress. High levels of commitment are indicated by high scores, and are beneficial against the negative consequences of workplace stress. For the dimensions of ill-health, the results show a lower than norm score for physical (ill) health, but a higher than norm score for psychological (ill) health. In general, the mean sten values for items and dimensions were lower than the norm. However, above-average sten values were obtained on the following items that measure occupational stress (a) 'I work longer hours than I choose or want to'; (b) 'I am set unrealistic deadlines'; (c) 'Others take the credit for what I have achieved', and d) 'I do not have enough time to do my job as well as I would like.' Regarding the dimensions, only one occupational stressor showed a score of average or higher, namely work overload. The level of the stressor is indicated by the dimensional values, with higher scores correlating to higher levels of stress; the lower than norm values thus indicate better than average levels of stress.

The Pearson correlations between the ASSET dimensions are reported in Table 3, which shows that work–life balance correlates practically significantly with work relationships (medium effect), work overload (large effect), and physical and psychological ill-health (both medium effects). Resources and communication correlate practically significantly with work relationships (large effect), work overload

Table 3: Correlations between the asset constructs

	1	2	3	4	5	6	7	8	9	10
1. Work–life balance	_	_	_	_	_	_	_	_	_	_
2. Resources and communication	0.24*	_	_	_	_	_	_	_	_	_
3. Work relationships	0.36*+	0.67*++	_	_	_	_	_	_	_	_
4. Work overload	0.56*++	0.52*++	0.52*++	_	_	_	_	_	_	_
5. Job security	0.23*	0.45*+	0.51*++	0.35*+	_	_	_	_	_	_
6. Job characteristics	0.29*	0.61*++	0.63*++	0.46*+	0.45*+	_	_	_	_	_
7. Control	0.28*	0.68*++	0.68*++	0.46*+	0.46*+	0.63*++	_	_	_	_
8. Organisational commitment	-0.03	-0.50*++	-0.48*+	-0.16	-0.27*	-0.44*+	-0.54*++	_	_	_
9. Individual commitment	0.06	-0.44*+	-0.37*+	-0.09	-0.19*	-0.36*+	-0.42*+	0.83*++	_	_
10. Physical (ill) health	0.30*+	0.25*	0.28+	0.33*+	0.24*	0.25*	0.17*	-0.16*	-0.15	_
11. Psychological (ill) health	0.34*+	0.34*+	0.37*+	0.42*+	0.27*	0.33*+	0.26*	-0.22*	-0.19*	0.67*++

* $p < 0.01$
\+ $r > 0.30$ (medium effect)
++ $r > 0.50$ (large effect)

(medium effect), job characteristics (large effect), job security (medium effect), control (large effect), low organisational commitment (large effect), low individual commitment (medium effect) and psychological ill-health (medium effect). Work relationships correlate practically significantly with work overload (large effect), job security (large effect), job characteristics (large effect), control (large effect), low organisational commitment (medium effect), low individual commitment (medium effect) and psychological ill-health (medium effect). Work overload correlates practically significantly with job security, job characteristics, control, and physical and psychological ill-health (all medium effects). Job security correlates practically significantly with job characteristics and control (both medium effect). Job characteristics correlate practically significantly with control (large effect), individual commitment and psychological ill-health (both medium effects). Control correlates practically significantly with organisational commitment (large effect) and individual commitment (medium effect).

The results of a multiple regression analysis with occupational stressors (as measured by the 'Perceptions of your job' scale of the ASSET) and organisational commitment (as measured by the ASSET) as independent variables and physical (ill) health (as measured by the 'Health' subscales of the ASSET) as dependent variable are reported in Table 4.

Table 4: Multiple regression analysis with physical (ill) health as dependent variable

	Unstandardised coefficients		**Standardised coefficients**	***t***	***p***	***F***	***R***	R^2
	B	SE	Beta					
						8.87*	0.43	0.18
(Constant)	7.57	1.25		6.03	0.00			
1. Work–life balance	0.11	0.05	0.14	2.42	0.01*			
2. Resources and communication	0.02	0.08	0.02	0.28	0.78			
3. Work relationships	0.07	0.05	0.12	1.51	0.13			
4. Work overload	0.19	0.06	0.21	3.15	0.00*			
5. Job security	0.05	0.05	0.05	0.90	0.37			
6. Job characteristics	0.08	0.05	0.11	1.53	0.13			
7. Control	-0.17	0.07	-0.18	-2.24	0.02*			
8. Organisational commitment	-0.06	0.06	-0.10	-0.88	0.38			
9. Individual commitment	0.01	0.08	0.01	0.14	0.89			

* $p < 0.05$

Table 4 shows that occupational stress and organisational commitment explained 18% of the variance in physical ill-health (as measured by the ASSET). Three occupational stressors (namely work–life balance, work overload and control) obtained statistically significant t-values ($p < 0.05$).

The results of a multiple regression analysis with occupational stressors (as measured by the 'perceptions of your job' scale of the ASSET) and organisational commitment (as measured by the ASSET) as independent variables and psychological (ill) health (as measured by the 'health' subscales of the ASSET) as dependent variable are reported in Table 5.

Table 5 shows that occupational stress and organisational commitment explained 24% of the variance in psychological ill-health (as measured by the ASSET). Three occupational stressors, namely work overload, work-life balance and control, obtained statistically significant t-values ($p < 0.05$).

Table 5: Multiple regression analysis with psychological (ill) health as dependent variable

	Unstandardised coefficients		**Standardised coefficients**	***t***	***p***	***F***	R^2
	B	SE	Beta				
						12.89*	0.24
(Constant)	13.53	2.05		6.60	0.00		
1. Work–life balance	0.20	0.08	0.15	2.61	0.01*		
2. Resources and Communication	0.07	0.13	0.04	0.57	0.57		
3. Work relationships	0.15	0.08	0.15	1.90	0.06		
4. Work overload	0.31	0.11	0.21	3.23	0.00*		
5. Job security	0.10	0.09	0.06	1.15	0.25		
6. Job characteristics	0.14	0.08	0.12	1.72	0.09		
7. Control	-0.24	0.12	-0.15	-1.95	0.05*		
8. Organisational commitment	-0.14	0.11	-0.14	-1.30	0.19		
9. Individual commitment	0.06	0.14	0.04	0.46	0.65		

* $p < 0.05$

DISCUSSION

The objectives of this study were to assess the occupational stress, organisational commitment and ill-health of engineers, and to determine whether occupational stress and (low) organisational commitment are related to ill-health of engineers. Engineers experience work–life balance as the major stressor in their current jobs. Role conflict results from the competing demands of work and family obligations. The stressor work–life balance includes the fact that engineers feel that they have to

work long hours. Most of the engineers also feel that they spend too much time travelling in their jobs. One reason for this finding is that most of the engineers are consultants and they travel a lot, which interferes with their home and personal lives.

Work overload was identified as an average stressor for engineers, but work overload may be especially stressful if engineers have little control over that. This concurs with Karasek's (1979) demand-control theory of occupational stress, which states that work characteristics may evoke different processes. High job demands (that is, work overload) may exhaust employees' mental and physical resources and may therefore lead to health problems or burnout. This, in turn, could lead to withdrawal from work and reduced motivation or commitment. It seems that lack of control was not a high stressor for engineers.

Compared to normative data, participants reported a lower level of physical ill-health and a higher level of psychological ill-health. These findings supported the findings of Tytherleigh (2003) on a sample of academic staff. Bradley & Eachus (1995) reported statistically lower levels of job satisfaction as well as more frequent symptoms of physical ill-health outcomes of stress. Because engineers seem to experience fewer mood swings, cope better than average and have the general ability to listen to other people, they will experience lower ill-health symptoms.

Job characteristics correlated with ill-health. This could mean that engineers who experience their physical working conditions as unpleasant are more prone to ill-health. This is also true for people who experience their job as dull and repetitive. Engineers who work with difficult customers and clients could experience ill-health.

Occupational stressors and low organisational commitment predicted 18% and 24% of the variance in physical and psychological ill-health respectively. The results of the multiple regression analyses showed that three occupational stressors (namely work–life balance, work overload and control) predicted both physical and psychological ill-health of engineers. Work–life balance includes items such as working long and/or unsocial hours, spending too much time travelling and interference of work with home/personal life. Work overload includes items such as unrealistic deadlines, unmanageable workloads and time pressure. Control includes little control over aspects of the job, not being involved in decisions and little or no influence over performance targets. Experiencing high work pressure combined with little control over the job, decisions and targets therefore contributed to both physical and psychological ill-health.

RECOMMENDATIONS

In terms of the experience of stressors by engineers, work–life balance as a stressor for engineers is a matter of concern. The organisation can expect to find negative costs associated with continued levels of stress, because of burnout and resulting lower productivity and efficiency as well as high employee turnover. Organisations are

therefore advised to prioritise the issue of work–life balance. Based on the results of this study, three levels of intervention strategies should be considered (Cooper et al. 2001). The primary level intervention is the most effective way to combat ill-health and eliminate or reduce the sources of strain (stressors) in the work environment. In this case, the organisation is advised to assist engineers with work–life balance. The organisation could also invest in secondary interventions that focus on stress management training to alleviate the impact that environmental stressors exert on engineers. Supervisory courses must aim to increase the individuals' awareness of their levels of strain and to enhance their personal coping strategies. This could include relaxation, training, time management and conflict resolution strategies. The organisation could also assign an industrial psychologist so that individuals who have suffered ill-health or reduced well-being as a result of strain can be referred for rehabilitation. Counselling may help individuals to deal with workplace stressors that cannot be changed structurally.

Organisations could evaluate these three interventions and make a sound decision that will benefit the individual as well as the organisation. These interventions could have cost implications for both the individual and the organisation. Further research is needed to evaluate the stress-reduction effects of organisational interventions.

ACKNOWLEDGEMENT

The material described in this article is based on work supported by the National Research Foundation under grant number 2053344.

REFERENCES

APESMA 2000. APESMA working hours and employment security survey report, PowerPoint presentation, personal communication.

Bradley, J. & Eachus, P. 1995. 'Occupational stress within a UK higher education institution', *International Journal of Stress Management*, 2: 145–158.

Burke, R.J. 1988. 'Type A behaviour, occupational and life demands, satisfaction, and well-being', *Psychological Reports*, 63: 451–458.

Cartwright, S. & Cooper, C.L. 2002. *ASSET, an Organizational Stress Screening Tool: the Management Guide*. Manchester: RCL.

Clark, L.A. & Watson, D. 1995. 'Construct validity: basic issues in objective scale development', *Psychological Assessment,* 7: 309–319.

Cooper, C.L. 1998. *Theories of Organizational Stress*. New York: Oxford Press.

Cooper, C.L., Dewe, P.J. & O'Driscoll, M.O. 2001. *Organizational Stress: a Review and Critique of Theory, Research, and Applications*: Thousand Oaks, CA: Sage.

Cooper, C.L. & Marshall, J. 1976. 'Occupational sources of stress: a review of the literature relating to coronary heart disease and mental ill-health', *Journal of Occupational Psychology*, 49: 11–28.

DeFrank, R.S. & Ivancevich, J.M. 1998. 'Stress on the job: an executive update', *Academy of Management Executive*, 12(3): 55–66.

Dewe, P. 1993. 'Measuring primary appraisal: Scale construction and directions for future research', *Journal of Social Behavior and Personality*, 8: 673–685.

Dwyer, T.C. 2001. Empowerment within a manufacturing organization. Unpublished masters dissertation, Potchefstroom University for Christian Higher Education, Potchefstroom.

Fletcher, B. 1988. 'The epidemiology of occupational stress', In Cooper, C.L. & Payne, R. (eds), *Causes, Coping and Consequences of Stress at Work,* pp. 350. Chichester, UK: Wiley.

Garland, B. 2002. 'Prison treatment staff burnout: consequences, causes and prevention', *Corrections Today*, 64(7): 117–121.

Health and Safety Executive. 2001. *Tackling Work-related Stress*. London: HSE Books.

Jex, S.M. 1998. *Stress and Job Performance*. Thousand Oaks, CA: Sage.

Johnson, S. & Cooper, C. 2003. 'The construct validity of the ASSET stress measure', *Stress and Health,* 19: 181–185.

Karasek, R.A. 1979. 'Job demands, job decision latitude, and mental strain: implications for job redesign', *Administrative Science Quarterly*, 24: 285–308.

Karasek, R.A. & Theorell, T. 1990. *Healthy Work: Stress, Productivity and the Reconstruction of Working Life*. New York: Basic Books.

Kitaoka-Higashiguchi, K., Nakagawa, H., Morikawa, Y., Ishizaki, M., Miura, K., Naruse, Y., Kido, T. & Sukigara, M. 2003. 'Social support and individual styles of coping in the Japanese workplace: an occupational stress model by structural equation analysis', *Stress and Health*, 19: 37–43.

Lingard, H. 2003. 'The impact of individual and job characteristics on burnout among civil engineers in Australia and the implications for employee turnover', *Construction Management,* 21(1): 69.

Lu, L., Cooper, C.L., Kao, S.F. & Zhou, Y. 2003. 'Work stress, control beliefs and well-being in Greater China', *Journal of Managerial Psychology*, 18: 479–510.

Meyer, J.P. & Allen, N.J. 1990. 'The measurement and antecedents of affective, continuance and normative commitment to the organization', *Journal of Occupational Psychology*, 63: 1–18.

Nelson, D.L. & Burke, R.J. 2000. 'Women executives: health, stress and success', *Academy of Management Executive*, 2: 107–121.

Nieumann, E. 1993. 'Antecedents and consequences of satisfaction and commitment among expatriate managers', *Group and Organization Management*, 8(2): 153–187.

Nunnally, J.C. & Bernstein, I.H. 1994. *Psychometric Theory,* 3rd edition. New York: McGraw-Hill.

Pelfrene, E., Vlerick, P., Kittel, F., Mak, R.P., Kornitzer, M. & De Backer G. 2002. 'Psychosocial work environment and psychological well-being: assessment of the buffering effects in the job demand-control model in BELSTRESS', *Stress Health*, 1: 43–56.

SAS Institute. 2000. *The SAS System for Windows: Release 8.01*. Cary: SAS Institute.

Shaughnessy, J.J. & Zechmeister, E.B. 1997. *Research Methods in Psychology,* 4th edition. New York: McGraw-Hill.

Sparks, K. & Cooper, C. 1999. 'Occupational differences in the work–strain relationship towards the use of situation specific models', *Journal of Occupational and Organizational Psychology*, 72: 219–228.

Spielberger, C.D. & Vagg, P.R. 1999. *Job Stress Survey: Professional Manual*. Odessa, FL: Psychological Assessment Resources Inc.

Sui, O.L., Spector, P.E., Cooper, C.L., Lu. L. & Yu, S. 2002. 'Managerial stress in greater China: the direct and moderator effects of coping strategies and work locus of control', *Applied Psychology: an International Review*, 51: 608–632.

Sui, O.L. 2003. 'Job stress and job performance among employees in Hong Kong: the role of Chinese work values and organizational commitment', *International Journal of Psychology*, 38: 1–11.

Sullivan, S.E. & Bhagat, R.S. 1992. 'Organizational stress, job satisfaction and job performance: where do we go from here?', *Journal of Management,* 8: 353–374.

Tabachnick, B.G. & Fidell, L.S. 2001. *Using Multivariate Statistics,* 4th edition. Boston, MA: Allyn & Bacon.

Taris, T.W., Schreurs, P.J.G. & Van Iersel-Van Silfhout, I.J. 2001. 'Job stress, job strain, and psychological withdrawal among Dutch university staff: towards a dual-process model for the effects of occupational stress', *Work and Stress*, 15: 283–296.

Taylor, S.E., Repetti, R.L. & Seeman, T. 1997. 'Health psychology: what is an unhealthy environment and how does it get under the skin', *Annual Review of Psychology,* 48: 411–447.

Tett, R.P. & Meyer, J.P. 1993. 'Job satisfaction, organizational commitment, turnover intention, and turnover: path analysis based on meta-analytical findings', *Personnel Psychology*, 46: 259–293.

Tytherleigh, M.Y. 2003. 'What employees may learn from English higher education institutions: a fortigenic approach to occupational stress', *South African Journal of Industrial Psychology*, 29(4): 101–106.

Best practice relationship with service quality in a home entertainment franchised system

A. Maritz & G. Nieman

ABSTRACT

Complementing the service vision in organisations leads to the development of best practice initiatives, often adopted by innovative firms in competitive industries and environments. Such initiatives are regarded as pivotal for survival and achieving competitive advantage (Porter 1998). The Video Software Dealers Association of America (VSDA 2001) described best practice in the home entertainment industry, as identified by Arthur Andersen Business consultants. This covered wide-ranging aspects, including understanding customers and markets, developing vision and strategy, refining store product offerings, implementing the marketing plan, creating promotions and in-store merchandising and clear in-store operations. Customer service findings included that best customer service is one-to-one, and that strong relationships and loyalty are developed between staff and customers through consistency of management and staff and by personalising customer service. The study evaluates the best practice relationship with service quality (SERVQUAL), using descriptive and inferential statistics. The techniques include Surveypro, SPSS, Kruskal-Wallis, and Cronbach's alpha as a reliability measure. We accept the hypothesis that best practice initiatives are positively associated with service quality. Recommendations for implementation are suggested, together with future research alternatives.

INTRODUCTION

The aim of this paper is to evaluate the relationship between best practice and service quality in a franchised home entertainment system. Best practices are systematic interventions that may be successfully demonstrated, whereas service quality is regarded as a major enhancer driving optimal business performance. This paper correlates these two concepts in a prominent franchised home entertainment system on the African continent.

Dr A. Maritz, is in the Faculty of Business and Enterprise, Swinburne University of Technology, Australia. Prof. G. Nieman is Head of the Department of Business Management, Faculty of Economic and Management Sciences, University of Pretoria. E-mail: amaritz@swin.edu.au

The purpose of the study is to empirically examine the proposition of the congruence of best practice and service quality, taking cognisance of the perceptions of franchisees in the defined system. The Video Software Dealers Association of America study is integrated in a southern African context, and service quality literature using SERVQUAL analysis is adapted for the study at hand. Use is made of descriptive and inferential statistics, highlighting the association between best practice and service quality items. Implementation includes recommended initiatives to enhance service quality in similar systems.

BEST PRACTICE

Jarrar & Zairi (2000) identify best practices as those that have been shown to produce superior results; have been selected by a systematic process; and are judged as exemplary, good or successfully demonstrated. They portray the effective transfer of best practice, from searching, evaluating, validating, implementing (transferring and enabling), reviewing to routinising. Transfer involves identifying and learning from best practices and applying them in a new configuration or venue (O'Dell & Grayson 1997). In their empirical study of internal transfer of best practice for performance excellence, Jarrar & Zairi (2000) indicate a wide spread of benchmarking applications across geographical and sectoral borders. It is the intention to adapt an international best practice study (customer satisfaction) into the context of a South African franchised home entertainment organisation.

Zairi (2000) empirically investigated the management of customer satisfaction from a best practice perspective, postulating that organisations need to see the process as a long-term pursuit of improvement – a culture change that can yield competitive outcomes of the highest order. Achieving and maintaining an effective customer-focused culture requires (Zairi 2000) getting closer to customers and having a feel for their future needs; promoting feedback on how well the organisation is performing from the customer's perspective; being aware of new introductions and innovations to satisfy future customer requirements; identifying organisational strengths and weaknesses from a competitive perspective and gauging employee performance and the most appropriate reward and recognition systems.

An audit tool, aimed at specifically measuring loyalty and retention, was developed by Blazey (1997). For instance, the tool analyses the measurement aspects of customer satisfaction; the quality of information and data used; and the external orientation aspects of focusing on customer satisfaction and the decision-making process itself. This audit tool was adapted for implementation of questionnaire design in this study. Zairi (2000) further provides thoughts on customer focus on a best practice perspective. Such initiatives include having a clear service strategy that is deployed with vision, purpose and objectives; key drivers based on best practice, including market dynamics, competition and environmental factors; creating clear

and open dialogue with customers; and monitoring customer satisfaction, loyalty, service quality and retention. These initiatives were used as complementary bases upon which best practice items were developed in the questionnaire.

HOME ENTERTAINMENT INDUSTRY BEST PRACTICE

The Video Software Dealers Association of America retained Arthur Andersen Business Consultants to identify best practices among the top-performing independent home entertainment retailers in a study conducted in 2000 (VSDA 2001). The report is formatted with a table of contents so that retailers may readily locate specific information. On-site interviews were conducted with the owners/operators of the most profitable independent retailers across five geographically dispersed market areas (based on benchmarking results): upstate New York; south-west Florida; central Ohio; Kansas City, Missouri; and San Francisco, California. The retailers represented a wide range of operations:

- Revenue: $100 000 to $1 200 000 per annum
- Competitive situation: no competition to ultra competitive
- Number of stores: one to multiple store locations
- VHS and DVD purchases: no revenue-sharing to revenue-sharing
- Location: small town to urban locations
- Product offerings: DVD, VHS and related consumables and services
- Adult entertainment: no adult to significant adult offerings.

The above dimensions are applicable to the current research project. The VSDA (2001) project is complemented by the findings of a customer satisfaction study conducted on a leading home entertainment retailer in South Africa (Maritz 2002, 2003a, 2003b). VSDA (2001) identified seven core areas of best practice, with corresponding recommendations for implementation. These core findings are incorporated to develop sub-items in the best practice constructs, represented in questions 69–78 in Table 3.

Best practice one: Understand markets and customers

Finding 1: To understand changes in your business, continually evaluate your markets and customers.

By continually evaluating your market and customers, you allow yourself to refine your product offerings and services to meet the changing needs of your customers and assist in more effectively marketing to your existing customers and potential

customers. The most profitable participants keep in touch by using the following methods: trade journals, customer research, survey cards, mystery shoppers and employee feedback sessions.

Finding 2: Customers want an enjoyable and convenient shopping experience.

Customers now want and expect in-stock movies. They know that they can find the movie they want at other locations. They expect both new releases and library/ catalogue titles to be in stock. Customers also want and expect personal customer service. They want to be greeted by staff and appreciated for their business. Knowledgeable sales staff make a difference to customers. Convenience in customers' minds goes well beyond having a convenient location. It is defined in terms of in-stock movies, hours of operation, drop boxes and rental terms. To give customers an enjoyable, convenient in-store experience, consider your store's visual impact. Make sure it is clean with well-kept surroundings. Your product lines should be organised according to a logical, easy-to-follow layout.

Finding 3: Have rental terms that focus on customer expectations.

Clearly define your rental terms and policies for customers and staff. Measure and understand changes in rental terms. The most profitable retailers have developed well thought-out strategies based on their customers' needs and on their competition.

Finding 4: Of the four home entertainment store selection drivers, price is ranked last.

Measure and understand the impact of price changes. The most profitable retailers are not averse to price increases under the right circumstances.

Finding 5: The most profitable home entertainment retailers in this study were price leaders in their markets.

The most profitable retailers interviewed in this survey had well-developed and thought-out pricing strategies for all formats of merchandise based on competition and the economics of their marketplace.

Best practice two: Develop vision and strategy

Finding 1: The most profitable retailers have developed the vision and strategy for their businesses both on a short-term and long-term basis.

This process defines the products and services that will be offered to customers and ensures that they are in line with the business strategy. Each goes through a process,

best characterised as an analysis of strengths, weaknesses, opportunities and threats (SWOT), to evaluate the current and future state of the business.

Finding 2: The most profitable retailers define a mission for their store.

Missions include value, availability, selection and experience related to specialisation in a particular market.

Best practice three: Refine store product offerings

Finding 1: Determine the products and offerings to deliver your mission.

This finding is facilitated by adding products and services to support the mission, eliminating products and services that are adverse to the mission, remaining customer-focused and balancing short- and long-term profitability.

Finding 2: Product and service offerings focus on customer satisfaction through meeting or exceeding expectations. The best stores have changed product purchases over the past couple of years to meet copy depth expectations of consumers.

The goals and current practices used by the most profitable participants to maximise their customer satisfaction are meeting consumer demand for rental product in week one (goal) and meeting total demand on a movie by week two or three (current practice). This may be achieved by revenue-sharing initiatives, or purchasing rates averaged at a minimum of 30% of rental revenue. Interactive gaming practice is to carry the three dominant game platforms: Playstation, Nintendo 64 and X-Box.

Best practice four: Implement marketing plan

Finding 1: Strong focus on community involvement drives awareness and loyalty.

Implementations include point of difference versus national chains, reinforcing activities in-store and focusing on different customer segments, which may include high schools and tertiary institutions (teens), boy scouts/girl scouts (families), performing arts (young adults/families) and chambers of commerce (business).

Finding 2: Direct mail is a cost-effective tool used to drive frequency for two customer groups: active customers and inactive customers.

The most effective offers have been determined and used to market to the appropriate customer groups. For both types, dedicated direct mail pieces as well as random ones are used.

Best practice five: Offer excellent customer service

Finding 1: The best customer service is one-to-one.

Motivate staff to develop one-to-one relationships with your customers. Initiatives include greeting customers upon entering the store, greeting regular customers by name, providing expert advice on movies and reservations for the best customers.

Finding 2: Strong relationships and loyalty are developed between staff and customers through consistency of management and staff.

Many of the most profitable retailers have employees with lengths of service ranging from two to ten years in the store. Many also have generational staffing.

Best practice six: Create promotions and in-store merchandising

Finding 1: The use of customer-driven merchandising brings ease of use and convenience to the rental experience.

Initiatives include new releases on the outer wall sorted alphabetically; library/ catalogue sorted alphabetically; DVDs in a separate section sorted alphabetically; interactive games in a separate section sorted alphabetically; adult entertainment in a separate room, sorted by category and alphabetically within each category; and previously viewed titles sorted alphabetically.

Finding 2: A range of in-store promotions programmes have helped maintain loyalty of consumers despite competitive store openings. These programmes help bring a point of differentiation to the in-store experience. Examples include free popcorn and 'happy-hour'.

Finding 3: A pleasing store is important to keeping your customers coming back.

Have consistent appearance of merchandising materials to correspond with your store décor. This includes clear, singular messages per merchandising piece; updating or changing every six to eight weeks; and minimising clutter in the message. All category and pricing signage is professionally produced and consistent throughout the store, with no handwritten signs. The interior of the store should reflect the image that needs to be projected to your customer.

Finding 4: The best stores regularly remodel/update stores to reinforce a strong and positive image to customers.

Implementations include replacing carpets, painting, updating fixtures, exterior signage and category signage.

Best practice seven: Have clear in-store operations

Finding 1: Store operating procedures are clearly documented in an operations manual for consistency of execution by staff.

Procedures include the store opening, cash management, customer service, cash wrap or check out, merchandising, loss prevention, setting the store street date (date of proposed availability of titles in-store), and safety and security. Store hours of operation were found to have consistent opening times of 09:00 or 10:00. Closing times vary, depending on the community, from 22:00 to midnight on Sundays to Thursdays and 23:00 to midnight on Fridays and Saturdays.

Finding 2: Staffing procedures and requirements vary by store depending on volume and location.

Finding 3: Store guidelines have an overall focus of serving the customer.

Findings indicate that customers expect to queue at major outlets, but not at home entertainment outlets. Home entertainment outlets are perceived to be havens of personalised, friendly service every time.

Most of the findings relate to operating processes that can be segmented into five key areas: understand markets and customers, develop vision and strategy, refine products and services, market and sell, and in-store operations. These five key best practice processes have been identified by Arthur Andersen under a process classification scheme, ten steps to success (VSDA 2001). They are operational processes and focus on the 'front of house' that directly impacts the customer experience, including store offerings and customer service. These processes have direct bottom-line impact. The report concludes with a handy checklist of operational best practices for home entertainment retailers. The operational processes are adapted to measure the relationship with service quality in this study.

The practicality of these best practices aligns with literature on the service profit chain (develop vision and strategy), service quality (understanding markets and customers), relationship management (offer excellent customer service), benchmarking (have clear in-store operations) and franchising (clearly documented operations manual). The disciplines depicted in brackets represent alignment of marketing terminology, services marketing and service quality with that of best practice items. Overall, service quality (Zeithaml & Bitner 2003), relationship management (Peck et al. 1999) and best practice/benchmarking (TBE 2004; VSDA 2001) are consolidated to enhance customer satisfaction and loyalty.

SERVICE QUALITY

Service quality management has been considered a major driver in enhancing business performance (Zeithaml & Bitner 2003). In service organisations, customer-

perceived service quality is considered one of the key determinants of business performance (Hung-Chang 2002; Teas 1993; Palmer 2001). Sureshchandar, Rajendran & Anantharaman (2002) empirically investigated the relationship between management's perception of total quality service and customer perceptions of service quality from a best practice perspective. Their results were indicative of total quality service dimensions being good predictors of service quality. Furthermore, the soft issues of total quality services (such as human resources, customer focus, service culture, employee satisfaction, top management commitment, leadership and social responsibility) seem to be more vital than the hard issues (such as customer interaction and customer service) in positively influencing customer-perceived service quality.

Within the best practice framework (TBE 2004), Baldridge National Quality Program (NIST 2004) identifies generic best practice core values and concepts. These include visionary leadership, customer-driven excellence, organisational and personal learning, valuing employees and partners, agility, focusing on the future, managing for innovation, management by fact, social responsibility, focusing on results and creating value and a systems perspective. Many of these core values are represented in allied disciplines, such as entrepreneurial activity (visionary leadership and innovation), service quality and the service profit chain (customer-driven excellence, valuing employees and partners), franchising (systems perspective) and relationship management (social responsibility, organisational and personal learning). Home entertainment industry best practices are specifically identified.

Service quality is often conceptualised as the comparison between service expectations and actual performance perceptions (Zeithaml & Bitner 2003). Emphasis is placed on the combined attitudinal construct of service quality, highlighting constituents of both cognitive and affective components. Parasuraman, Ziethaml & Berry (1998) tend to delineate service quality using more cognitive items, whereas Palmer (2001) found that the affective attitudes exhibited more change under affective means of persuasion than under cognitive means of persuasion. Teas (1993), however, argues that service quality is a combination of transaction and overall attitude.

Research suggests that customers perceive service quality in a multi-dimensional way, based on multiple factors relevant to the context. Zeithaml & Bitner (2003) identify dimensions of reliability, assurance, tangibles, empathy and responsiveness. They further identify the gaps model of service quality. The gaps model provides input into managing the services marketing mix for service quality and setting service standards. The integration of service relationships includes market orientation, loyalty, customer satisfaction, marketing culture, previous experience, internal marketing, future consumer behaviour and culture.

Service quality measurement includes analyses of a number of tools, including SERVQUAL (Parasuraman et al. 1998), SERVPERF (Cronin & Taylor 1992),

EP/NQ model (Teas 1993), Qualitometro (Franceschini & Rossetto 1997), the critical factor approach (Sureshchandar et al. 2002), bank service quality (Bahia & Nantel 2000) and the two-way model (Schvaneveldt et al. 1991). The appropriate measurement tool for this study, however, integrates the service quality dimensions of SERVQUAL.

METHODOLOGY

The research methodology comprised the survey approach, using electronic media and Surveypro analysis. The population consisted of all 162 franchised outlets within the market leader in the South African home entertainment sector. Surveypro methodology included an electronic survey, combined with Internet-aided data compilation and representation. This was facilitated by descriptive and inferential statistical techniques using SPSS data analysis. Inferential significance tests included the ANOVA Kruskal-Wallis hypothesis test, based on the approximation of the chi-square distribution with k-1 degrees of freedom. Internal-consistency reliability is measured by the Cronbach's coefficient alpha, measuring overall inter-item correlation between the identified constructs. The Pearson correlation coefficient was implemented to evaluate association between the best practice and service quality dimensions. Exploratory research, in the form of the literature review and previous empirical studies, was used as background and facilitating data. Best practices for the home entertainment industry were identified, linking theory with practice (VSDA 2001). Service quality is measured using an integration of the SERVQUAL service quality measurement tool. Best practice items are represented in questions 69–78 in Table 3.

EMPIRICAL RESULTS

The final data representation consisted of 93 responses, indicative of an 84.6% response rate. This represents 162 franchised outlets, consisting of 110 franchisees (depicted in Table 1). Seventy-three per cent of respondents were male. Responses from the Western Cape and Gauteng regions predominated. Seventy-two per cent of respondents own only one franchised outlet, indicative of an absence of entrepreneurial orientation.

Industry best practice (BP) is represented in the questionnaire by associated themes within the construct, including understanding customer markets, developing strategy and vision 1 and 2, refining offerings, influencing the marketing plan 1 and 2 and 3, promotion and in-store merchandising, and clear in-store operations 1 and 2. These best practice initiatives are represented as questions 69–78 in Table 3.

Table 1: Response and realisation rates

Region/Province	Franchisees	Outlets	Average outlets per franchisee	Response counts	Response (%)
Western Cape	35	64	1.8	32	91.4
Gauteng	35	46	1.3	27	77.1
Eastern Cape	12	14	1.2	11	91.6
KwaZulu-Natal	7	10	1.4	6	85.7
Limpopo	4	5	1.3	4	80.0
North-West	5	7	1.4	4	80.6
Free State	5	8	1.6	4	80.0
Mpumalanga	4	4	1.0	3	75.0
Northern Cape	3	4	1.3	2	66.7
Total	**110**	**162**	**1.4**	**93**	**84.6**

The purpose and objective of the study is to evaluate the association of best practice to service quality using inferential statistics. The hypothesis postulates that:

H_1: Best practice initiatives are positively associated with service quality.
H_0: Best practice initiatives are not positively associated with service quality.

The format of the investigation followed a descriptive and inferential analysis by means of item analysis and the ANOVA Kruskal-Wallis hypothesis test of significance.

BEST PRACTICE DESCRIPTIVE AND INFERENTIAL STATISTICS

Item descriptive statistics are depicted in Table 2. The left hand column identifies the best practice associations of understanding customer markets, developing strategy and vision 1 and 2, refining offerings, influencing the marketing plan 1 and 2 and 3, promotion and in-store merchandising, and clear in-store operations 1 and 2. The descriptive and inferential statistics are used for an analysis on a per item basis. Each of these associations represents sub-items in the best practice construct (questions 69–78 in Table 3). Correlation analysis is used to evaluate associations within the construct, together with associations of service quality.

Construct descriptives are characterised by a mean score of 3.31, representing an overall positive response to the construct questions. Forty-one per cent of construct responses were in the 'agree' scale, indicative of the relative peakedness of the construct distribution (kurtosis of 2.123). The standard deviation for the sample

mean, referred to as the standard error of the mean, is relatively small for the $n = 93$ response rate, which indicates that the average deviation from the mean is relatively stable. Standard deviations are relatively low (with all variables below 1.0), which indicates that the majority of the responses were distributed closely around the mean score. Kurtosis is indicative of a relatively peaked distribution, with variable 75 indicative of substantial peakedness. Excluding variable 75 would result in a construct kurtosis of 1.503, which is more representative of the data set. Sixty per cent of the variables are characteristic of a peaked distribution, while the distribution of 20% of the variables is marginally flatter than a normal distribution.

Table 2: Best practice descriptive statistics

Question	Association	Item mean	Std error of mean	Standard deviation	Kurtosis
69	Understanding customers and markets	3.04	0.092	0.779	0.044
70	Developing strategy and vision 1	2.86	0.103	0.944	-0.578
71	Refining offerings	3.73	0.064	0.668	2.614
72	Implementing the marketing plan 1	4.15	0.075	0.779	2.891
73	Implementing the marketing plan 2	2.36	0.070	0.933	0.391
74	Implementing the marketing plan 3	3.83	0.097	0.673	3.729
75	Promotion and in-store merchandising	4.15	0.081	0.722	7.704
76	Clear in-store operations 1	3.80	0.070	0.616	4.483
77	Clear in-store operations 2	2.85	0.098	0.988	-0.388
78	Developing strategy and vision 2	2.31	0.081	0.884	0.336
	Construct descriptives *n* = 93	**3.31**	**0.083**	**0.799**	**2.123**

Not all variables are intended to be analysed from a Pearson correlation point of view; all variables are merely listed for the purpose of completing the table. Appropriate correlations are discussed in the per item evaluations. Inter-item reliability is analysed by means of the Cronbach's alpha, with values depicted in Table 3. The table includes the corrected item-total correlation and the alpha if the item is deleted. The Cronbach's alpha reliability coefficient is appropriate for the project at hand (0.7893). Should any item be deleted, the alpha is only marginally affected, confirming the decision to include all variables.

Table 3: Item reliability analyses for best practice themes

Question	Association	Item-scale correlation	Alpha if item deleted
69	Understanding customers and markets	0.6039	0.7602
70	Developing strategy and vision 1	0.6179	0.7460
71	Refining offerings	0.5381	0.7599
72	Implementing the marketing plan 1	0.3170	0.8149
73	Implementing the marketing plan 2	0.3806	0.7756
74	Implementing the marketing plan 3	0.3698	0.7740
75	Promotion and in-store merchandising	0.4868	0.7856
76	Clear in-store operations 1	0.5141	0.7547
77	Clear in-store operations 2	0.4985	0.7589
78	Developing strategy and vision 2	0.4655	0.7707
Reliability coefficients		10 items	
Cronbach's alpha for the construct = 0.7893			

Table 3 identifies an appropriate construct Cronbach's alpha of 0.7893 (above the desired 0.7). The distribution is also characterised by appropriate reliability should any item be deleted. Item-scale correlations are also appropriate (above 0.3). An average item-scale correlation of over 0.48 is indicative of the strength of significant association within the construct.

INDUSTRY BEST PRACTICE HIGHLIGHTS

Empirical results highlight the following associations within the defined franchise system. The highlighted results are identified by sub-items, represented as questions 69–78 of Table 3):

- Promotion and in-store merchandising dominate the best practice associations, suggesting the importance of physical evidence tangibles in the service offering (question 75).
- Implementing the marketing plan with regard to community involvement also dominates best practice associations, which is indicative of the link between localised marketing and awareness and loyalty (questions 72–74).
- Clear in-store operations regarding operating procedures are regarded as poorly documented by the majority of franchisees, as is the use of direct mail (questions 76 and 77).

- Best practice initiatives are not adequately communicated within the defined franchise system, implying discontent with overall communication within the system (question 69).
- Developing strategy and vision is regarded as undeveloped, particularly with respect to single outlet franchisees. The implications include lack of long-term business planning, vision and direction (questions 70 and 78).

In conclusion, best practice initiatives were positively related to service quality.

BEST PRACTICE SIGNIFICANCE

The items were analysed, evaluating their associations with inter-construct items and their associations with other constructs. There is now an opportunity to empirically analyse best practice in the light of association with service quality. The applicable null and alternate hypotheses are represented as:

H_1: Best practice initiatives are positively associated with service quality.
H_0: Best practice initiatives are not positively associated with service quality.

The use of the non-parametric ANOVA Kruskal-Wallis significance test is applicable to H_1 (Table 4).

Table 4: Application of non-parametric ANOVA Kruskal-Wallis significance test to H_1

Test statistic a.b

	Best practice initiatives
Chi-square	4.998
df	3
Asymp.Sig	0.172

c. Kruskal-Wallis test
d. Group variable SQ (service quality)
Note: a.b refers to the correlation between best practice and service quality

The presentation of the *p*-value at 0.172 (greater than 0.05) indicates that the null hypothesis is not unlikely, and the null hypothesis is therefore not rejected. We therefore accept the hypothesis that best practice initiatives are positively associated with service quality. The purpose and objective to demonstrate the relationship between service quality and best practice results in a positive association between the two constructs.

RECOMMENDATIONS AND CONCLUSIONS

It has been shown that industry best practice initiatives enhance service quality. Taking a lead from the studies of the Video Software Dealers Association of America, and in conjunction with the empirical findings of this research report, the recommendations include:

- A best practice and benchmarking guideline should be developed and implemented for franchisees. The themes should include understanding markets and customers, developing vision and strategy, refining outlet offerings, implementing the marketing plan, excellent customer service, creating promotions and in-store merchandising, and clear in-store operations. These guidelines will not take the place of an operations manual but are intended to supplement it.
- The franchise operations manual should be updated, with appropriate training in communication and new initiatives.
- Training and development should be facilitated with respect to business planning at franchisee level.
- Best practice communication and interaction should be linked with service profit chain and relationship marketing initiatives (such as intranet and the internal marketing core competencies matrix).

Best practice initiatives are integrally linked to the relationship marketing, service profit chain and service quality constructs. Overall, a guideline of best practices, communicated formally to franchisees, will go a long way towards enhancing both customer and franchisee satisfaction.

Primary research limitations revolve around the population of the data set, consisting of a study within a defined franchise system. Recommendations for further research include international application within the home entertainment industry coupled with synergies with other related service industries.

REFERENCES

Bahia, K. & Nantel, J. 2000. 'A reliable and valid measurement scale for the perceived service quality of banks', *International Journal of Bank Marketing,* 18(2): 84–91.

Baldridge National Quality Program (NIST). 2004. Criteria for performance excellence. [Online] Available at: www.baldridge.nist.gov.

Blazey, M.L. 1997. *Insights to Performance Excellence,* American Society for Quality (ASQ). Milwaukee, WI: Quality Press.

Cronin, J.J. & Taylor, S.A. 1992. 'Measuring service quality: a re-examination and extension', *Journal of Marketing,* 56(7): 55–68.

Franceschini, F., Cignetti, M. & Caldara, M. 1998. 'Comparing tools for service quality evaluation', *International Journal of Quality Science,* 3(4): 356–367.

Hung-Chang, C. 2002. 'A study on the cognitive and affective components of service quality', *Total Quality Management,* 13(2): 265–274.

Jarrar, Y.F. & Zairi, M. 2000. 'Internal transfer of best practice for performance excellence: a global survey', *Benchmarking: an International Journal,* 7(4): 239–246.

Maritz, P.A. 2002. Investigating customer service levels to achieve competitive advantage. Unpublished MBA dissertation, Thames Valley University, London.

Maritz, P.A. 2003a. Investigating customer service levels to achieve competitive advantage in the SME home entertainment rental industry. Small Enterprise Association of Australia and New Zealand (SEAANZ), Conference proceedings, September, Ballarat.

Maritz, P.A. 2003b. Service profit chain implementation towards achieving competitive advantage. Australia and New Zealand Association of Management (ANZAM), Conference proceedings, December, Perth.

O'Dell, J. & Grayson, P. 1997. Identifying and transferring best practices, Best Practice White Paper. Houston, TX: APQC.

Palmer, A. 2001. *Principles of Services Marketing,* 3rd edition. Berkshire, UK: McGraw-Hill.

Parasuraman, A., Ziethaml, V.A. & Berry, L.L. 1998. 'A multiple-item scale for measuring consumer perceptions of service quality', *Journal of Retailing,* March: 12–40.

Peck, H., Payne, A., Christopher, M. & Clark, M. 1999. *Relationship Marketing: Strategy and Implementation.* Oxford: Butterworth Heinemann.

Porter, M.E. 1998. *On Competition.* Boston, MA: Harvard Business School Press.

Schvanaveldt, S.J., Enkawa, T. & Miyakawa, M. 1991. 'Consumer evaluation perspectives of service quality: evaluation factors and two-way model of quality', *Total Quality Management,* 2(2): 11–30.

Sureshchandar, G.S., Rajendran, C. & Anantharaman, R.N. 2002. 'The relationship between service quality and customer satisfaction-a factor specific approach', *Journal of Services Marketing,* 16(4): 363–379.

TBE (The Benchmarking Exchange). 2004. *Benchmarking and Best Practices*. [Online] Available at: www.benchnet.com/wib.htm.

VSDA (Video Software Dealers Association of America). 2001. *An Annual Report on the Home Entertainment Industry 2001.* Northridge, MN: Corporate Creative.

Zairi, M. 2000. 'Managing customer satisfaction: a best practice perspective', *TQM Magazine,* 12(6): 289–394.

Zeithaml, V.A. & Bitner, M.J. 2003. *Services Marketing, Integrating Customer Focus across the Firm,* 3rd edition. New York: McGraw-Hill Irwin.

Size estimate of the informal sector in South Africa

A.A. Ligthelm

ABSTRACT

Much debate surrounds the size, nature and characteristics of the informal sector of South Africa. This discourse tends to concentrate on a single aspect of the informal sector, namely the so-called 'second economy', consisting predominantly of small (often survivalist) businesses established, *inter alia*, at large transport interchanges and in township areas. The major focus of studies in this regard is on the characteristics and dynamics of these businesses, but such studies lack the measurement of their size and their contribution to the national economy. This study is an attempt to broaden the debate to include the unrecorded (informal) part of the modern or first economy as well as the measurement of the size of both the second economy and the informal part of the modern economy. A series of 13 previous Bureau of Market Research surveys, supplemented by secondary data, is used to estimate the size of the informal economy.

INTRODUCTION

The informal economy constitutes an important part of the South African economy. It has attracted considerable research attention during the past two to three decades, not only because of its sheer size but also because of its potential role in providing income-generating and employment opportunities, particularly for the unemployed in South Africa.

The predominant focus of informal sector studies in South Africa is on the nature and characteristics of informal businesses operated primarily in township areas, on kerb sides and at large transport interchanges. Macro-oriented research on quantifying the contribution of the informal economy to the gross domestic product (GDP) is limited. The majority of these macrostudies focus on point estimates, with only a few attempting to build a time series on the size of the informal economy over time (Saunders & Loots 2005: 92).

The point estimates range from 6.7% to 12.6% (Ligthelm 2005). The two available time series show opposite trends. The estimates of Abedian & Desmidt (1990) show an increasing trend, from a GDP contribution of approximately 6% in

Prof. A.A. Ligthelm is in the Bureau of Market Research, University of South Africa. E-mail: ligthaa@unisa.ac.za

1970 to 12.0% in 1988. Saunders & Loots (2005: 97) state that while the size of the informal economy averages 9.5% of GDP for their study period (1967–2002), there is a clear decrease in the size of the informal economy relative to GDP, from 12.0% in 1967 to 7.2% in 2002. The South African Reserve Bank (1999: 26) estimated the GDP contribution of the informal sector at approximately 7% in 1999.

The considerable variation in the size estimates of the informal economy is not surprising. It stems not only from differences in methodological approaches, but particularly from differences in the specific component of the informal sector measured, which ranges from only survivalist businesses, primarily in the African communities, to a more comprehensive definition that may also include informal activities in affluent communities to escape the burden of high taxes and government regulations.

OBJECTIVE AND METHODOLOGY

The objective of the article was to estimate the size of the informal sector, as defined in the next section on the taxonomy of the South African economy to embrace both informal activities in the so-called first economy, as well as the size of the second economy. The estimates include the GDP contribution and employment of the informal sector, as well as the number of informal outlets in the second economy.

The method for calculating the size of the informal economy relied largely on information generated by surveys undertaken by the Bureau of Market Research (BMR). Of particular importance in this regard are surveys among informal retailers, and household income and expenditure surveys. (The 13 surveys consulted in this regard are cited in the rest of the article.) These surveys are supplemented with secondary data from the Labour Force Surveys (LFSs) of Statistics South Africa (2002–2005), population census data (Statistics South Africa 2001) and the findings of other informal sector measurement studies. The Organisation for Economic Cooperation and Development (OECD) (2002: 171) states that informal sector and household income and expenditure surveys are a potential source of information on the demand by households for goods and services produced in the informal sector.

TAXONOMY OF THE SOUTH AFRICAN ECONOMY

Most authors studying the informal sector face the difficulty of defining the sector. It is widely acknowledged that the sector includes all unregistered and unrecorded economic activities that normally escape detection in the official estimates of GDP. Schneider (2002: 3) confirms that the informal economy embraces all unreported income from the production of goods and services – both legal and illegal, either from monetary or barter transactions – hence all economic activities that would have been taxable if reported to tax authorities.

The fact that this article distinguishes in its measurement between different components of the informal or unrecorded economy makes it imperative to dissect the informal economy in more detail. Figure 1 suggests the categorisation of the South African economy into three components, namely the first, second and third economies. The first economy is further subdivided into the 'recorded' first economy and the 'unrecorded' first economy. The informal sector, as defined in this study, consists of the unrecorded first economy as well as the second economy. Although largely unrecorded, the third economy is excluded from the calculations in this study, the reason being that fraudulent activities are not captured in survey research.

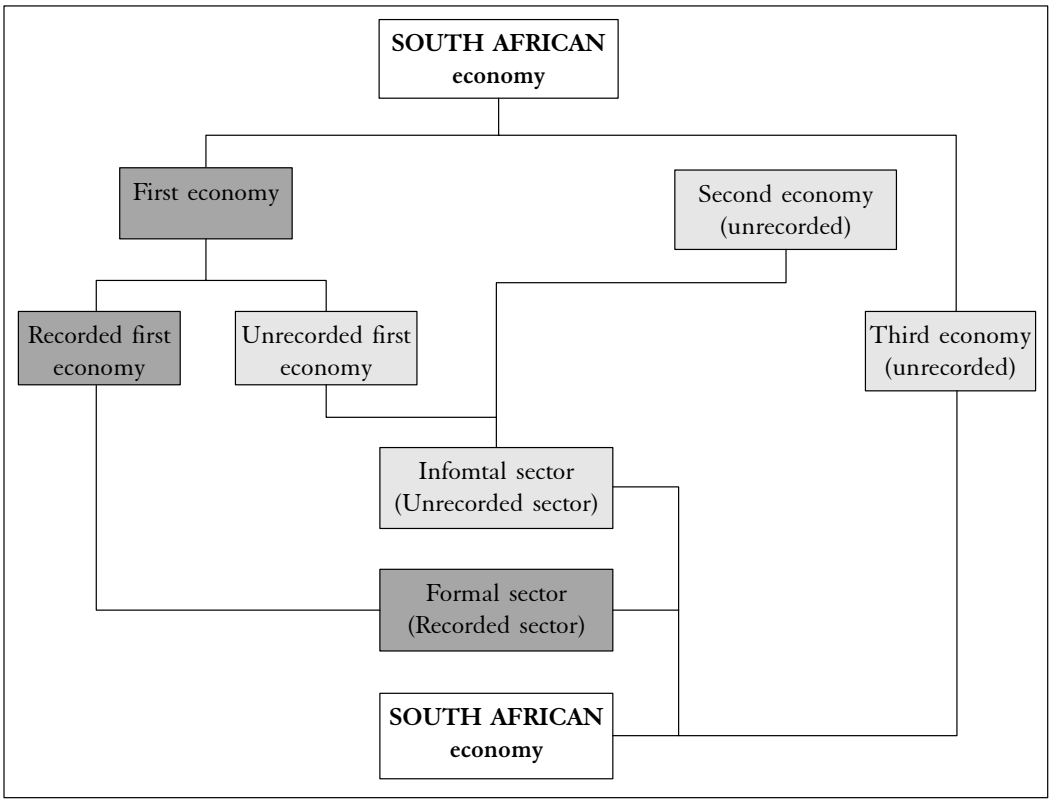


Figure 1: Structure of the South African economy by type of activity

Mbeki (2003: 5) often observes that South Africa is characterised by two parallel economies, the first and second. The *first economy* is modern, operating with advanced technology, integrated with the global economy, and produces the bulk of the country's wealth. However, it also contains an informal component. Informality in the first or modern economy is often the result of avoiding compliance with cumbersome procedures and regulations. Farrell (2004: 27) states that it is no secret that some businesses operate partially or wholly outside the law by underreporting (or not reporting) employment, avoiding taxes, infringing copyrights and even failing to

register as legal entities. Schneider (2002: 42) confirms that the main causes of becoming informal in the modern economy are the burden of direct and indirect taxation and the burden of government regulations. Both these elements provide a strong incentive to operate in the informal economy. In the official labour market, the costs firms (and individuals) have to pay when officially hiring someone are increasing enormously through the burden of tax and social contributions on wages as well as the legal regulations attached to employment. Schneider (2002: 21) remarks that this is especially true in Europe, where the total tax and social security burden adds up to 100% in addition to the wage effectively earned by the employee. 'Tax morality' (that is, citizens' attitudes towards the state) may also influence individuals' readiness to leave their formal occupations and enter the informal economy.

The *second economy* has become an important element in the South African government's development policy and plans to combat poverty. In contrast with the first economy, with its modern and globally integrated nature, Mbeki (2003: 5) typifies the second economy as follows:

> The second economy (or marginalised economy) is characterised by under-development, contributes little to GDP, contains a big percentage of our population, incorporates the poorest of our rural and urban poor, is structurally disconnected from both the first and global economy, and is incapable of self-generating growth and development.

This part of the economy manifests itself in small, often survivalist businesses established as kerb-side traders, traders in pedestrian malls, traders at transport interchanges, small manufacturers and small home-based businesses such as tuck or spaza shops.

Informal businesses in the second economy often originate from the lack of alternative income possibilities of owners. The establishment of an informal business is therefore the result of an effort to escape the plight of unemployment rather than the exploitation of a dynamic or prosperous business opportunity. Businesses may also be so small that they fall outside the income tax net and often employ no nonhousehold members. Infringement of regulations, such as safety regulations, and noncompliance with product quality prescriptions, are often caused by ignorance rather than deliberate avoidance. In contrast, businesses in the first economy are often established to exploit lucrative business opportunities.

The *third economy* embraces all forbidden activities and includes, *inter alia*, the following: production and distribution of illegal goods (such as drugs), illegal services (such as prostitution), the production and sale of counterfeit products (such as false trademarks), smuggling (of tobacco and weapons, for instance), resale of stolen goods, bribery and money laundering (OECD 2002: 151).

The Organisation for Economic Cooperation and Development, in its handbook for measuring the non-observed economy (OECD 2002), also distinguishes between three unrecorded components in an economy, namely the underground, informal and illegal economies. The following broad definitions are presented by the OECD (2002: chapter 3):

- *Underground economy:* This component is defined as all legal and productive activities that are deliberately concealed from public authorities for the following reasons: avoiding payment of taxes (income, value added tax [VAT] and other taxes), avoiding payment of security contributions and avoiding having to meet government regulations such as minimum wages. This sector closely relates to the already-mentioned unrecorded first economy.
- *Informal economy:* Informal economic activities are not conducted with the aim of avoiding any government regulations and are therefore perfectly legal. Production in this sector is normally undertaken in small household, unincorporated enterprises. Capital used in these enterprises does not belong to the business but to the owner. Businesses are established to provide income and employment to household members, who often cannot find employment opportunities in the formal economy. The informal economy, as defined by the OECD, is closely related to the second economy, as shown in Figure 1.
- *IIllegal economy:* The illegal economy, as defined by the OECD, resembles the third economy as described earlier in this section.

The measurement of the informal economy is concerned with both the second economy and the informal part of the first economy (that is, basically the underground and informal economies as defined by the OECD). In the rest of this article, reference to the informal sector or economy will embrace the broader concept encompassing the informal part of the first economy and the entire second economy. The fraudulent third economy is excluded, but may be captured in size estimates, especially if indirect measurement approaches are used (see the section on methods for estimating the size of the informal economy).

The informal sector comprises a variety of activities ranging from small commercial activities to small production and service enterprises. This article will attempt to embrace informal businesses in all the economic sectors except informal agricultural activities. This approach conforms with the approach of the International Labour Organisation's International Conference of Labour Statisticians (ICLS), which proposed that all agricultural activities, including small and noncommercial (subsistence) production, should be excluded from the measurement of the informal economy and should rather be measured separately as part of agricultural surveys (Charmes 2000: 62).

METHODS FOR ESTIMATING THE SIZE OF THE INFORMAL ECONOMY

Various methods are described in the literature for measuring the size of the informal or unrecorded economy. These methods can be divided broadly into direct and indirect approaches. The discussion of these methods is largely based on the work of Schneider (2002) that was conducted for the World Bank, the OECD handbook for measuring the nonobserved economy (2002) and Schneider & Klinglmair (2005).

Direct methods

Direct methods for measuring the size of the informal sector are based largely on surveys and samples. These surveys may focus on various aspects such as household expenditure, informal business and employment surveys. They are applied in a number of countries and are often micro-oriented in the sense that they cover only small areas. National surveys are seldom conducted because of the high cost involved as well as the lack of proper sample frames of informal businesses.

The disadvantages of this method are linked to the typical flaws of survey research, which include, among others, the willingness of respondent businesses to participate in a survey, average precision and the previously mentioned lack of proper sample frames, and the micro-orientation of the majority of informal sector surveys. The advantages of this method are that the informal sector can be targeted directly, for example, only with respect to those active in the second economy. It is also important to note that this method provides detailed insight into the characteristics, composition and dynamics of the informal economy.

It is generally conceived that survey methods tend to underestimate the size of the informal economy and can be regarded as providing conservative estimates.

Indirect methods

The indirect methods (also called indicator methods) are macroeconomic in nature and use various indicators that indirectly allow for the measurement of the size of the entire informal economy. Seven of these methods are briefly discussed in this section (see Schneider 2002; OECD 2002; Saunders & Loots 2005; Schneider & Klinglmair 2005).

Discrepancy method

This method is aimed at establishing the discrepancy between GDP estimates from the expenditure and income sides (Schneider & Klinglmair 2005: 26). Any residual item between these two variables is then ascribed to informal sector activities. In principle, the estimated size of an economy should be the same whether calculated from the expenditure or income side. Thus, if the expenditure side exceeds the

income side, the gap is indicative of the extent of the informal economy not captured in the income side. Schneider (2002: 34) argues that the components of GDP are normally not measured without error, and the gap therefore reflects all omissions and errors made when compiling national account statistics. These estimates may therefore be very crude and their reliability debatable.

Labour discrepancy method

This method (Schneider & Klinglmair 2005: 27) is based on a discrepancy between the so-called 'official' and 'actual' labour force and may therefore reflect employment in the informal economy. An officially recorded constant or declining labour force participation amidst a situation of declining unemployment may be regarded as an indication of an increase in the informal economy. Generally, this method is regarded as a weak indicator of the size and development of the informal economy, because labour force statistics are not always well developed, especially in developing countries.

Transactions method

This method (OECD 2002: 188; Schneider 2002: 35) was developed by Feidge (as quoted in Schneider & Klinglmair [2005] and OECD [2002]) and assumes that there is a constant relationship between the volume of transactions and GDP. Any discrepancy or change in that ratio is regarded as being caused by the informal economy. There are several problems with respect to Feidge's method. The most prominent of these are the assumption of a base year with no informal activity and the assumption of a so-called 'normal' ratio of transactions over time. The model also requires precise figures of the total volume of transactions to allow a reliable estimation of the informal sector. These may not be available, especially for cash transactions.

Global indicator method

The most prominent example of the global indicator method is the electricity consumption approach (Schneider 2002: 39; OECD 2002: 191) in which it is assumed that electric-power consumption is the best single physical indicator of GDP growth. It assumes a precise and stable relationship between electricity consumption and output. Any change in this ratio is caused by informal sector activity. This method suggests a simple and easily applied calculation, but may be criticised on several grounds: informal economic activities such as street vending and tuck shops require limited or even no electricity; alternative energy sources (such as gas and coal) can also be used; and technological progress and energy savings may impact on the GDP/electricity elasticity over time.

Currency demand method

The most recent version of the currency demand method states that informal (or hidden) transactions are undertaken in the form of cash payments, in order not to leave any observable traces for the authorities (Schneider & Klinglmair 2005: 28). An increase in the size of the informal economy will therefore increase the demand for currency and is being used as a proxy for estimating the size of the informal economy.

The following criticisms (Schneider 2002: 36) of this approach can be raised: not all transactions in the informal economy are settled in cash; no distinction can be made between informal activity in the second economy and informality in the first or modern economy; most studies consider the tax burden to be the only factor contributing to the informal economy; and most studies assume the same velocity of money in both types of economies. Furthermore, this method would also measure the transactions emanating from fraudulent or illegal activities, which also give rise to cash transactions to avoid any traces of such activities.

Cash to deposit ratio method

The cash:deposit ratio (OECD 2002: 189) is based on the ratio between cash and transferable money. It is argued that the way in which people make payments is affected only by changes in taxation and government regulations. The main reason for these different payment methods is that people want to conceal certain activities to avoid taxation. These hidden activities are used to estimate the size of the informal economy (specifically the informal part of the first economy). This method is criticised on several grounds, especially with regard to its underlying assumptions. These include the fairly stable cash:deposit ratio of the observed economy; that the 'surplus' money held in cash is only in the hidden economy; and that one dollar held in cash in the informal economy generated as much value added as one dollar in the formal economy.

Latent variable method

The macromodelling methods described in previous sections assume that the informal economy can be modelled in terms of one or a small number of variables. The latent variable method combined a wide range of explanatory variables, including the tax burden, unemployment rate, tax morality and per capita income that may impact on the size of the informal economy. This method can also be seriously questioned, especially with regard to its high demand for data that are often not available and/or unreliable (OECD 2002: 191).

Concluding remarks

Macromodels have a role to play, particularly when basic data are not available. However, the OECD (2002: 192) maintains that empirical data should always be

regarded as the preferred basis for statistical estimates. It is also worth noting that Schneider (2002: 34) found in his research that surveys are unlikely to capture all informal activities and can therefore be regarded as providing conservative estimates. On the contrary, the OECD (2002: 187) states that macromodelling methods tend to produce 'spectacularly' high estimates. This discrepancy, which may emanate from the various approaches, should be considered when evaluating informal sector measurement studies.

MEASURING THE SIZE OF THE INFORMAL ECONOMY

The dualism in the South African informal sector – consisting of survivalist enterprises established to escape the plights of poverty and unemployment in the second economy, as well as informal businesses established to escape the burden of high taxes and state regulations in the first economy – compels the use of direct measurement approaches if this dualism is to be accommodated separately in informal sector estimations. However, experience has shown that direct methods (survey research) among participants in the second economy are fairly simple, as it was found that respondents are more than willing to participate in questionnaire completion, while the opposite has been experienced with empirical research in the first economy, where respondents are hesitant to confess fraudulent behaviour.

The measurement of the second economy is derived primarily from the BMR household income and expenditure surveys which, *inter alia*, enquired about the type of outlet used to source household consumption items. These calculations are enriched with survey findings on employment and turnover of informal businesses to ultimately measure the contributions of the second economy to household expenditure, employment, number of outlets and GDP.

The informal part of the first economy is measured indirectly by subtracting informal employment generated by the foregoing calculations from the informal employment aggregate as calculated by the BMR (Van Aardt 2005). The reason for not applying survey methodology to measure the informal part of the first economy stems from a lack of a sample frame of these businesses as well as their hesitance to supply reliable data. This calculation is used as a basis for measuring the contribution of the unobserved part of the first economy to GDP.

The discussion in the rest of this section elaborates on the methodology and sources used for the calculations.

Size of the second economy

Contribution to household expenditure

The BMR household income and expenditure surveys enquire about household expenditure on approximately 550 items. Respondents are also given eight options

(four in the formal and four in the informal sector) to indicate where they source their household consumption items. The alternatives for the informal sector contained in the questionnaire are hawker/street vendor, spaza shop, shebeen and other informal outlets.

Six household income and expenditure surveys conducted in the three main metropolitan areas (Gauteng, Durban/Pinetown and the Cape Peninsula) during the period 1999 to 2005 were used as a basis for determining the share of informal outlets in total household expenditure by area, population group and product (Martins 1999, 2000, 2001, 2003, 2004b, 2005). These three areas account for close to 60% of total household expenditure in South Africa. The lack of similar information for the rest of South Africa compels an assumption that the percentage of total expenditure devoted to the informal sector in the three metropolitan areas is also relevant for the other areas where approximately 40% of household expenditure is affected. The two primary areas outside metropolitan areas are rural communal areas, and secondary and smaller towns. It can be assumed that informal sector outlets predominate in rural communal areas and attract a substantial share of household expenditure. The share of the informal sector in smaller towns may be somewhat less than in large metropolitan areas, since low-cost residential areas are located closer to formal business areas and consequently the so-called 'convenience factor' of, for example, spaza shops may be less prominent.

Table 1 shows the weighted average percentage of household expenditure allocated to informal businesses as well as the total amount expended at such outlets in 2004.

A total of R51.7 billion was spent at informal businesses in 2004, representing 6.3% of total household cash expenditure of R822.7 billion. The expenditure groups representing sizeable amounts are: food (R16.7 billion), transport (R15.9 billion), alcoholic beverages (R4.6 billion), savings and funds (R3.1 billion), personal care (R2.3 billion), and cigarettes and tobacco (R2.2 billion).

The expenditure groups with the highest percentage expenditure devoted to the informal sector are: alcoholic beverages (26.5%), household fuel and light (25.7%), reading matter (23.8%), cigarettes and tobacco (21.0%), and transport (19.1%).

Two further perspectives are relevant in this regard. Firstly, the amounts discussed represent only household expenditure and therefore exclude the purchases of private nonprofit institutions from informal outlets (the latter is included in final consumption expenditure as a component of GDP in national account calculations). However, the type of merchandise stocked at, and the location of, informal outlets are primarily focused on household demand, implying that institutional expenditure may not be an important component of the turnover of informal businesses. The four most important product groups stocked by spazas are soft drinks, cigarettes/tobacco, paraffin/candles and maize meal (Ligthelm 2002: 48), while almost two thirds of

Table 1: Total household cash expenditure by main expenditure group and informal business (2004)

Main expenditure item	Household expenditure at informal businesses		Total household expenditure in South Africa
	Weighted average (%)	(Rm)	(Rm)
Sold by retail sector	**9.9**	**30 794**	**307 987**
Food	9.8	16 716	171 403
Clothing, footwear and accessories	5.0	1 552	31 028
Household fuel and light (wood, coal, etc.)	25.7	495	1 929
Medical and dental: medicine	3.0	136	4 520
Education: stationery and books	3.1	50	1 621
Recreation: equipment, etc.	1.5	47	3 236
Furniture and household equipment	4.1	956	23 570
Alcoholic beverages	26.5	4 574	17 244
Cigarettes and tobacco	21.0	2 200	10 467
Washing and cleaning materials, etc.	4.3	479	11 222
Personal care	9.6	2 252	23 368
Reading matter and stationery	23.8	1 261	5 296
Holiday/weekend: refreshments, etc.	2.5	76	3 083
Sold by nonretail sector	**7.4**	**17 739**	**239 870**
Transport	19.1	15 874	83 018
Medical and dental: services	0.7	188	27 763
Education: tuition	0.0	0.0	19 988
Insurance and funds	0.0	0.0	50 761
Recreation: admission, etc.	2.2	169	7 554
Dry-cleaning and laundry	5.8	21	356
Communication	1.2	362	30 853
Holiday/weekend: accommodation, etc.	8.3	600	7 195
Miscellaneous	4.2	525	12 382
Type of business not applicable	**1.1**	**3 130**	**274 799**
Housing and electricity	0.0	0	123 944
Domestic workers	0.0	0	10 113
Support of relatives (cash)	0.0	0	2 164
Income tax	0.0	0	89 658
Savings	6.4	3 130	48 920
Grand total	**6.3**	**51 663**	**822 656**

Source: Martins 1999, 2000, 2001, 2003, 2004b, 2005a and 2005b

hawkers trade in fruit/vegetables, cooldrinks, cigarettes, clothing and cooked food (Ligthelm 2004: 24).

Secondly, the purchases of households from informal outlets are multisectoral, implying that purchases are not only from retail outlets but may also include small manufacturers, businesses in the transport sector (primarily taxis) and service industries, including businesses supplying household and personal services such as telecommunications, and hairdressing and styling. The household expenditure data unfortunately do not allow a sectoral breakdown of the informal sector. For example, the household expenditure of R956 million on furniture and household equipment

sourced from the informal sector may be second-hand furniture sold by a retailer or purchased directly from a small informal manufacturer. Apart from the transport sector (mainly taxis), it can be assumed that the largest percentage of informal activity takes place in the retail sector. In a World Bank (1993: 1) census of microenterprises in Mamelodi (in Pretoria) and KwaZakhele (close to Port Elizabeth), it was found that about 70% of African micro-businesses are concentrated in the retail sector. The main reasons for this stem from the easy access to this sector, the relatively small amount of start-up capital required and the low skills levels required for a buying–selling type of business.

Number of informal businesses

Knowing the size of household expenditure at informal businesses allows for estimating the number of businesses by type of informal business.

Table 2 shows the amount spent at each of the informal business types in 2004. The following informal businesses in the second economy attracted the largest amounts from households: informal transport businesses (R15.9 billion), hawkers/street markets (R10.4 billion), spaza shops (R8.9 billion) and shebeens (R4.2 billion).

Table 2: Total household expenditure in the informal sector of the second economy by type of outlet (2004)

Informal sector outlet	Total household expenditure at informal business	
	(Rm)	(%)
Hawker/street market	10 439	20.2
Spaza shop	8 930	17.3
Shebeen	4 219	8.2
Other informal retail outlets[1]	7 206	13.9
Informal transport (e.g. taxis)	15 874	30.7
Informal medical services	188	0.4
Informal telephone/fax booths	600	1.2
Informal holiday/weekend accommodation	525	1.0
Miscellaneous[2]	552	1.0
Informal financial outlets	3 130	6.1
Total	**51 663**	**100.0**

Note: 1. Other informal outlets include private persons, backyard mechanics, farm stalls and kiosks at schools and transport businesses
2. Miscellaneous includes informal expenditure on driving lessons, handbags, funeral expenses, illegal gambling, etc.

Source: Calculated from Martins 1999, 2000, 2001, 2003, 2004b, 2005a and 2005b

Previous BMR surveys among informal sector outlets in the second economy (Ligthelm 2002, 2004; Ligthelm & Martins 2003; Ligthelm & Masuku 2003) suggested

the following approximate annual turnover figures for selected informal business categories for 2004:

- Hawkers R40 000
- Spaza shops R70 000
- Shebeens R105 000.

Table 3 shows the estimated number of informal sector outlets by type of outlet, for which turnover figures were established through the cited surveys. The table confirms that there are just over a quarter of a million hawkers in South Africa, followed by 127 600 spaza shops and just over 40 000 shebeens.

Table 3: Estimated number of informal retail outlets (2004)

Type of outlet	Total household expenditure (a) (Rm)	Estimated average turnover (2004) (b) (R)	Estimated number of outlets (a ÷ b)
Hawker	10 439	40 000	261 000
Spaza shop	8 930	70 000	127 600
Shebeen	4 219	105 000	40 100

Employment by informal businesses

Table 4 depicts the average employment size of a selection of informal businesses. This information was extracted from five different surveys conducted by the BMR between 1998 and 2004. Average employment is fairly small and ranged from an average of 1.59 by hawkers to 2.51 by spaza shops. The employment numbers include both full- and part-time employees.

Total employment by the informal sector of the second economy is estimated in Table 5. It is estimated that the 749 500 informal sector outlets of the second economy employed just over 1.6 million people at an average employment per outlet of 2.29 employees (part- and full-time). It was established in BMR surveys that the overwhelming majority of informal employees (between 80% and 90%) originate from the owners' households, implying that almost one million households earn some or all of their income from informal sector employment. The BMR surveys among hawkers and spazas confirmed that between 85% and 95% of informal business owners are involved in their businesses on a full-time basis, implying that limited income emanates from other income sources such as remuneration from formal employment. At an average household size of 4.5, it can be stated that close to

Table 4: Average employment in selected informal outlets

Survey area	Year	Business type		
		Spaza shops	Hawkers	Shebeens
Tembisa	1998	2.35		
South Africa	2000	2.92		
South Africa	2003	2.41	1.58	
South Africa	2003	2.34	1.70	2.41
Pretoria	2004		1.48	
Average		**2.51**	**1.59**	**2.41**

Source: Ligthelm 2002, 2004; Ligthelm & Martins 2003; Ligthelm & Masuku 2003; Ligthelm & Van Zyl 1998

five million people in South Africa sourced some or all of their income from the second economy.

Table 5: Estimated total employment[1] by the informal sector of the second economy (2004)

Type of outlet	No. of outlets	Estimated average employment	Estimated total employment
Hawkers	261 000	1.59	415 000
Spaza shops	127 600	2.51	320 300
Shebeens	40 100	2.41	96 600
Other informal outlets[2]	320 800	2.46	789 000
Total	**749 500**	**2.29**	**1 620 900**

Note: 1. Includes part- and full-time employees
2. The figures for other informal outlets are assumed to be equal to the average of the turnover and employment of spazas and shebeens.

Source: Derived from Tables 3 and 4

Labour remuneration in the second economy

Information on labour remuneration and gross operating surplus in the second economy is very sketchy and may vary considerably from sector to sector as well as across areas. In a national study conducted among informal businesses in the second economy in 2003 (Ligthelm & Martins), the financial statements of these businesses were constructed. Purchasing of merchandise represents the major expenditure item, accounting on average for 47.4% of total operating expenditure. It varied between

35.0% for hawkers and 54.7% for shebeens in 2003. Remuneration of employees, including the owner, represented on average 41.9% of expenditure, ranging from 56.0% for hawkers to 36.7% for shebeens.

Table 6 depicts the weighted mean of the financial statements of informal retail outlets as established in the said 2003 survey. It shows an average annual turnover of R64 412, of which R26 986 was allocated to labour remuneration and R37 425 to other costs, including the procurement of merchandise. At an average employment size of 2.26 (full- and part-time employees), this implies an average remuneration of R11 941 for 2003, or just under R1 000 (R995) per month per employee. This figure corresponds closely with the average remuneration of hawkers in Pretoria, which stood at a monthly income of R1 115 in 2003 (Ligthelm & Van Wyk 2004). This constitutes about half the minimum living level of just over R2 000 to sustain an average household in Pretoria in 2004 (Martins 2004a). The relatively low level of labour remuneration, together with limited or even no capital employment in the second economy, explains the fact that the informal outlets included in the study (spazas, shebeens and hawkers) showed no gross operating surplus. The foregoing average financial structure is assumed to be applicable to all informal businesses in the second economy with the exception of transport and manufacturing businesses, for which a small gross operating surplus is estimated (see the sub-section on the contribution of the second economy to GDP).

Table 6: Average financial statement of informal retail outlets[1] in the second economy (2003)

Variable	R	%
Labour remuneration	26 986	41.9
Other operating costs	37 425	58.1
Gross operating surplus	0	0.0
Turnover	64 412	100.0

Note: 1 Weighted mean of spazas, shebeens, hawkers and other informal retail outlets

Source: Ligthelm & Martins (2003)

The estimated total and average labour remuneration for 2004 is calculated as follows:

(a) Total turnover of informal outlets	R51 663 million
(b) Total labour remuneration (assumed as 41.9% of turnover)	R21 647 million
(c) Estimated number of informal workers	1 720 900
(d) Average remuneration per employee ((b) ÷ (c))	R12 580

(e) Estimated number of outlets	749 500
(f) Labour remuneration expenditure per outlet ((b) ÷ (e))	R28 900

Contribution of the second economy to GDP

The estimation of the size of the second economy in previous sections is based exclusively on the share of informal outlets in total household expenditure. This implies that institutional expenditure by government, business and civil society at informal outlets, as well as the possibility of generating a small gross operating surplus in some sectors, is not taken into account. This section explores this issue in an attempt to estimate the contribution of the second economy to GDP.

The value added of the informal sector of the second economy is estimated in the previous section as R21 647 million in 2004. This contribution amounted to 1.8% of GDP at basic prices (SARB 2005a). This value added estimation is based on the business accounts of informal retail outlets employing limited or no capital assets. Although these constitute the largest segment of the informal economy, some of the other sectors such as manufacturing, transport and construction may employ capital assets resulting in gross operating surplus. The share of the latter three sectors in the second economy amounted to approximately 25%. On an assumption of a ratio of 80:20 between labour remuneration and gross operating surplus for these three sectors, value added of the second economy can be supplemented by a further R1 473 million. This results in an additional value added contribution of 0.1% of GDP at basic prices.

Institutional expenditure at informal sector outlets is assumed to be very small in comparison with household expenditure at such outlets. The product configuration of informal retailers largely ruled out institutional expenditure at such outlets. Aspects such as product/service quality and delivering on time may also discourage institutional expenditure at such outlets, implying that households act as the major client base of informal outlets. However, some institutional expenditure may be effected at informal outlets in the manufacturing, construction and transport sectors.

As a result of a lack of information on institutional expenditure at informal outlets, it is assumed that household and institutional expenditure in the second economy would have a ratio of 90:10. This would result in a contribution of 0.2% to GDP.

The foregoing calculations result in an estimated GDP contribution of 2.1% by the second economy.

Estimation of the size of the informal sector of the first economy

As mentioned in the introduction, part of the first economy came about when businesses started operating partially or wholly outside the law by non- or underreporting their employment size and income. As a result, direct measurement

approaches such as surveys could not generate reliable information from this sector of the economy. The overwhelming majority of individuals and businesses in the informal part of the first economy could not be identified, or simply refused to provide information or to provide incorrect information. The only viable option is therefore to use indirect measurement approaches. This can be done by means of the currency demand approach or any of the other indirect approaches discussed earlier in the article. However, this will not allow the estimation of separate figures for the informal part of the first economy or the size of the second economy. These approaches also capture activities of the third economy.

In this article, a different measurement approach is followed. However, this approach will only be possible if the total employment size of the second economy is estimated to allow a subtraction of this number from total informal employment. This figure forms the basis for estimating total labour remuneration and gross operating surplus as value added components contributed to GDP by the informal sector of the first economy.

The following methodology is suggested for estimating the labour remuneration component of the informal sector of the first economy in 2004:

(a) Total informal sector employment, first and second economy (as calculated by Van Aardt [2005]):	2 142 000
(b) Estimated informal employment in the second economy (see Table 5):	1 620 900
(c) Estimated informal employment in the first economy ((a)–(b)):	521 100
(d) Average income of workers in the informal first economy (LFS 2004: 23) (90% of formal sector income of R52 704) (LFS 2004: 23):	R47 450
(e) Total estimated labour remuneration in the informal sector of the first economy ((c) × (d)):	R24 726.2 million

To complete the value added contribution of the informal sector of the first economy, the following is suggested to estimate the gross operating surplus of informal businesses in the first economy. It is assumed that as a result of limited capital employment and relatively low overhead costs of informal businesses in the first economy, business owners would tend to minimise allocation of their surplus to gross operating surplus and use it rather to augment own income. It is therefore assumed that the ratio of compensation of employees (owner included) to gross operating surplus is in the vicinity of 80:20. This ratio stood at approximately 51:49 in the formal sector of the economy (SARB 2005b: B11). As indicated in the sub-section on the contribution of the second economy to GDP, gross operating surplus in the second economy, where most businesses operate at a survivalist level, is very small.

The suggested ratio of 80:20 for the informal component of the first economy therefore lies between the second economy (average of 95:5) and the formal sector (51:49).

The foregoing assumption implies a gross operating surplus of R6 181.5 million for informal businesses in the first economy. This figure, together with total labour remuneration of R24 726.2 million, adds up to a total value added contribution of R30 907.7 million by the informal component of the first economy. Expressed as a percentage of GDP at basic prices, it results in a contribution of 2.5% in 2004.

GDP contribution of the informal economy

The measurement of the size of the informal sector as conducted in this section results in a total contribution of 4.6% to GDP in 2004. It constitutes a contribution of 2.1% by the second economy and a further 2.5% by the informal part of the first economy.

CONCLUSION

The structure of the South African labour market has changed considerably during the past two decades. A decline in the share of formal employment has been experienced, implying an increased dependence on other means of income such as informal sector employment (Ligthelm 2005).

The motives for becoming involved in informal activities may differ between participants in the first and second economies. The main reasons for becoming informal in the first economy are the burdens of direct and indirect taxation and of government regulations, factors such as retrenchments and early retirement packages in the civil service since 1994, as well as the process of cocooning, whereby people tend to combine work and residential space. However, informal businesses in the second economy often originate as a result of the lack of alternative income possibilities. The establishment of an informal business in the second economy is therefore the result of an effort to escape the plight of unemployment rather than the exploitation of a prosperous business opportunity. The characteristics and profiles of these two components of the informal economy differ significantly, but are both unregistered and unrecorded.

Various methods, each with their advantages and disadvantages, are available to measure the size of the unrecorded informal economy. Only a direct measurement approach utilising surveys will be able to distinguish between the sizes of the two components of the informal economy. It is important to note that it has been found that survey methods tend to underestimate the size of the informal economy, and the calculations in this article can thus be regarded as providing lower-bound estimates.

The following size estimates are presented for the second economy for 2004:

- Number of informal outlets: 749 500
- Total employment: 1 620 900
- Contribution to GDP at basic prices: 2.1%

It is estimated that the informal part of the first economy employed 521 100 persons with a value added contribution to the GDP of 2.5%. The combined contribution of the informal sector to GDP at basic prices amounted to 4.6%, and the sector employed 2.1 million people in 2004. Note that this calculation excludes the size of the illegal economy.

The foregoing calculations are based on available secondary data as well as a series of assumptions in cases where no secondary data were available. Any variation in the assumptions may affect the calculations. However, a sensitivity test confirms that moderate adjustments in the majority of the assumptions will not impact strongly on the findings.

VALIDATION

Two of the most recent measurements of the informal economy suggest a contribution to GDP of more than the 4.6% estimated in this article. The South African Reserve Bank (1999: 26) suggested an informal sector share contribution of approximately 7.0% to GDP in 1999.

The reasons mentioned by the South African Reserve Bank for the presumed growth of the informal economy was the abolition of influx control and the repeal of regulatory measures that prepared the way for informal initiatives in the second economy. It is further stated that job shedding through retrenchments and early retirement packages in the civil service and parastatal organisations after 1994 brought about new developments that also stimulated the informal sector of the first economy. These developments were probably at their peak during the latter part of the 1990s. Saunders & Loots (2005: 92) applied the currency demand approach (indirect method) and estimated an informal sector GDP contribution of 7.2% in 2002. This figure may have been slightly lower in 2004 on the basis of their estimates, which show the following downward trend in the informal sector's share of GDP during recent years: 8.1% in 1999, 7.7% in 2000, 7.8% in 2001 and 7.2% in 2002. It also includes a substantial element of the third (illegal) economy over and above the calculations made in this article.

A further development that may impact negatively on the development of the informal retail trade sector is the increased concentration of major stores in South Africa. Currently, 54% of retail sales occur at major outlets (Pick 'n Pay, Shoprite Checkers, Clicks, Spar and Woolworths). It is predicted that this figure will reach

60% in 2008, which is in line with the global trend (Bizcommunity [S.a.]) and implies a decline in the retail sector as the most important sector of the second economy.

In view of the experience that measurements based on survey data tend to be conservative, while indirect methods tend to produce high estimates, the size of the South African informal economy may be in the range of 4.6% (the estimate in this article) and 7.2% (the result of the currency demand calculation for 2002). Considering the fact that the latter estimate also includes elements of the fraudulent economy, a GDP contribution of the informal economy of between 5% and 6% would be realistic.

REFERENCES

Abedian, I. & Desmidt, M. 1990. 'The informal economy in South Africa', *South African Journal of Economics* 58(4): 404–424.

Bizcommunity.com. [S.a.]. [Online] Available at: http://biz-community.com/article/196/19/5160.html. Accessed: 25 October 2005.

Charmes, J. 2000. 'Evaluating the extent of nonregistration: Do we accept the challenge?', *The Courier: Africa-Caribbean-Pacific-European Union Cooperation,* 178. December/January.

Farrel, D. 2004. 'The hidden dangers of the informal economy', *McKinsey Quarterly* 3: 27–37.

LFS – Labour Force Survey, see Statistics South Africa.

Ligthelm, A.A. 2002. Characteristics of spaza retailers: Evidence from a national survey. Reserach Report No. 305. Pretoria: Unisa, Bureau of Market Research.

Ligthelm, A.A. 2004. Informal markets in Tshwane: Entrepreneurial incubators or survivalist reservoirs? Research Report No. 335. Pretoria: Unisa, Bureau of Market Research.

Ligthelm, A.A. 2005. Measuring the size of the informal sector in South Africa. Research Report No. 349. Pretoria: Unisa, Bureau of Market Research.

Ligthelm, A.A. & Martins, J.H. 2003. *A Survey of Informal Retail Outlets in South Africa: Economic Impact of Coca-Cola Products.* Moore School of Business, University of South Carolina.

Ligthelm, A.A. & Masuku, T. 2003. Size, structure and profile of the informal retail sector in South Africa. Research Report No. 323. Pretoria: Unisa, Bureau of Market Research.

Ligthelm, A.A. & Van Wyk, A.M.A. 2004. *Informal Trading in Tshwane: Regulatory, Spatial and Economic Framework*. Pretoria: City of Tshwane.

Ligthelm, A.A. & Van Zyl, S.J.J. 1998. Profile study of spaza retailers in Tembisa. Research Report No. 249. Pretoria: Unisa, Bureau of Market Research.

Martins, J.H. 1999. Expenditure of households in the Durban metropolitan area according to outlet. Research Report No. 268. Pretoria: Unisa, Bureau of Market Research.

Martins, J.H. 2000. Expenditure of households in Gauteng by expenditure items and type of outlet. Research Report No. 289. Pretoria: Unisa, Bureau of Market Research.

Martins, J.H. 2001. Expenditure of households in the Cape Peninsula by expenditure item and type of outlet. Research Report No. 304. Pretoria: Unisa, Bureau of Market Research.

Martins, J.H. 2003. Total expenditure of households in the Durban metropolitan area by expenditure item and type of outlet. Research Report No. 321. Pretoria: Unisa, Bureau of Market Research.

Martins, J.H. 2004a. Minimum and supplemented living levels in the main and other selected urban areas of the RSA. Research Report No. 307. Pretoria: Unisa, Bureau of Market Research.

Martins, J.H. 2004b. Total expenditure of households in Gauteng by expenditure item and type of outlet. Research Report No. 329. Pretoria: Unisa, Bureau of Market Research.

Martins, J.H. 2005. Income and expenditure in the Cape Peninsula by type of outlet, 2004. Research Report No. 341. Pretoria: Unisa, Bureau of Market Research.

Mbeki, T. 2003. The second economy: What is it and what is needed to meet the growth and development challenges it presents. Address by President Thabo Mbeki to the National Council of Provinces, Cape Town, 11 November 2003.

OECD. 2002. *Measuring the Non-observed Economy: a Handbook*. Paris: Organisation for Economic Cooperation and Development.

Saunders, S. & Loots, E. 2005. 'Measuring the informal economy in South Africa', *South African Journal of Economic and Management Sciences,* 8(1): 92–101.

Schneider, F. 2002. Size and measurement of the informal economy in 110 countries around the world. Paper presented at a workshop of the Australian National Tax Centre, ANU, Canberra, Australia, 17 July.

Schneider, F. & Klinglmair, R. 2005. *Public Policy and the Shadow Economy*. Sandton: Chamber of Commerce and Industry of South Africa.

Statistics South Africa. 2001. *Population Census*. [Online] Available at: www.statssa.gov.za/census2001/html/default.asp.

Statistics South Africa. 2002, 2003, 2004, 2005. *Labour Force Survey*. Statistical Release P0210. Pretoria: Stats SA.

South African Reserve Bank. 1999. *SA National Accounts: An overview of Sources and Methods*. (Supplement to June 1999 *Quarterly Report*). Pretoria: SARB.

South African Reserve Bank. 2005a. *Quarterly Bulletin, June 2005*. Pretoria: SARB. (Various volumes were used).

South African Reserve Bank. 2005b. *South Africa's National Accounts, 1946–2004: an overview of Sources and Methods*. Pretoria: SARB. (Supplement to the SARB *Quarterly Bulletin,* June 2005).

Van Aardt, C.J. 2005. BMR unpublished data.

World Bank. 1993. *Characteristics of and Constraints Facing Black Businesses in South Africa: Survey Results*. Washington DC: World Bank.

Work–home interaction as partial mediator between job resources and work engagement

K. Mostert

ABSTRACT

The aim of this study was to investigate whether work–home interaction fully or partially mediates between job resources (including job control and job support) and work engagement. The Effort-Recovery model was used as theoretical framework. A cross-sectional survey design was used. Random samples (n = 326) were taken of workers employed in the earthmoving equipment industry in eight provinces of South Africa. The Survey Work–home Interaction – Nijmegen (SWING) and the Utrecht Work Engagement Scale (UWES) were administered. Job control and job support were measured by items that were adapted from the Job Content Questionnaire and a validated questionnaire on experience and evaluation of work. Multiple regression analysis showed that work–home interaction partially mediated between job resources (job control and job support) and work engagement.

Key words: job resources, job control, job support, work–home interaction, work engagement, mediating

INTRODUCTION

In modern society, the two most significant domains in the life of an employed individual are work and home. In the literature, there has been consensus that these two domains influence each other in both a positive and a negative way (see Frone 2003; Geurts & Demerouti 2003; Grzywacz & Marks 2000). Consequently, it is increasingly important for employees to integrate responsibilities at both work and home. However, the integration between these two domains has become more difficult since major changes have taken place in the composition of the workforce and in the nature of work itself. During the last few years, and especially since the democratic elections in South Africa in 1994, there has been an increase in working women, dual-career couples, single parents and fathers who are actively involved in parenting (Schreuder & Theron 2001). These demographic and structural changes in the workforce and family structure have not only affected work and family roles and

Dr K. Mostert is at the WorkWell: Research Unit for People, Policy and Performance, North-West University, Potchefstroom. E-mail: bpkkm@puk.ac.za

their interrelations (see, for example, Bond, Galinsky & Swanberg 1998; Ferber, O'Farrell & Allen 1991; Sulsky & Smith 2005), but also have a significant impact on individual behaviour in an organisational setting, and ultimately on organisational functioning itself (Allen, Herst, Bruck & Sutton 2000; Houston 2005; Lewis & Cooper 2005; Parasuraman & Greenhaus 1999). As a result, it is important to investigate the impact of the interaction between work and home on several aspects in the organisation – including aspects that could have an influence on the well-being and motivation of employees.

Since the emergence of positive (organisational) psychology, it has become important to study positive aspects of health and well-being in the organisational setting. One of these positive aspects is work engagement, which is considered the antipode of burnout. Whereas burned-out workers feel exhausted and cynical, their engaged counterparts feel vigorous and enthusiastic about their work (Schaufeli, Salanova, González-Romá & Bakker 2002). One of the major antecedents of work engagement is the availability of job resources (Schaufeli & Bakker 2004). Therefore, when employees have enough job resources, such as participative management, increasing social support, job autonomy, performance feedback, task variety and training facilities (Demerouti, Bakker, Nachreiner & Schaufeli 2001; Schaufeli & Bakker 2004), it is likely that they will be more engaged.

It is important for the organisation to provide employees with valued job resources that will foster engagement. Engaged employees will benefit the organisation because they will have a more positive attitude towards work and towards the organisation. A positive attitude could manifest in more job satisfaction, higher organisational commitment and low turnover intention (Demerouti et al. 2001; Schaufeli & Bakker 2004), and employees with a positive attitude will also display positive organisational behaviour, such as personal initiative and learning motivation (Sonnentag 2003). However, sufficient resources are not only imperative to enhance engagement, but are also important to reduce demanding aspects of the job and to enhance employee well-being in the face of work–home interaction (Geurts & Demerouti 2003; Montgomery, Peeters, Schaufeli & Den Ouden 2003).

As it seems that job resources have a relationship with both work–home interaction and engagement (Geurts & Demerouti 2003; Montgomery et al. 2003; Schaufeli & Bakker 2004), it follows logically that work–home interaction can be rooted in the interference caused by a lack of resources, and, consequently, that such (negative) interference can lead to lower levels of engagement. When an individual has enough resources, however, it could help him/her balance the demands at work and home, which would foster positive interaction between the two domains, leading to higher levels of engagement.

Work–home interaction

Initially, research on work–home interaction focused almost exclusively on the *negative* impact of work on the home situation (that is, work–family conflict). As a result, the most widely cited definition of work–family conflict states that it is a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible in some respect. That is, participation in the work (family) role is made more difficult by virtue of participation in the family (work) role (Greenhaus & Beutell 1985: 77).

However, it seems that researchers have come to realise that the work–home interface is a much broader concept, which also encompasses a positive side, and studies have started to address the prevalence and correlates of positive interaction between work and private life (see Frone [2003] and Geurts & Demerouti [2003] for reviews). As a result of this new focus, Geurts, Taris, Kompier, Dikkers, Van Hooff & Kinnunen (2005) formulated a definition based on the Effort-Recovery model (Meijman & Mulder 1998) and define the work–home interface as an interactive process in which a worker's functioning in one domain (for example, home) is influenced by (negative or positive) load reactions that have built up in the other domain (for example, work). Based on this definition, work–home interaction comprises four dimensions: (1) negative work–home interference (WHI), referring to a situation in which negative load reactions built up at work hamper functioning at home; (2) negative home–work interference (HWI), referring to negative load reactions developed at home that impede functioning at work; (3) positive work–home interference, defined as positive load reactions built up at work that facilitate functioning at home; and (4) positive home–work interference, occurring when positive load reactions developed at home facilitate functioning at work.

According to various researchers (see Bakker & Geurts 2004; Geurts et al. 2005; Grandey & Cropanzano 1999; Montgomery et al. 2003), studies about work–home interaction have not based their hypotheses on strong conceptual frameworks. However, an increasing number of studies have started to use a relevant theoretical perspective, called the Effort-Recovery (E-R) model (Meijman & Mulder 1998), as a conceptual framework when work–home interaction is investigated. The E-R model describes how work and private life may interact with each other, as well as the mechanisms whereby well-being may be affected during this process. According to this model, effort expenditure is associated with specific load reactions (namely physiological, behavioural and subjective responses) that develop within the individual. In practice, the short-term reactions include all the responses at a physiological, behavioural and subjective level that can be related to the load process. These reactions are, in principle, reversible. Recovery takes place when the exposure to load ceases, and the respective psychological systems will stabilise again at a

specific baseline level within a certain period of time (Drenth, Thierry & De Wolff 1998). As a result of the recovery process, fatigue and other effects of stressful situations are reduced, but when demands do not cease, no recovery occurs.

The fundamental role of the recovery process clearly makes the E-R model a promising perspective for studying *negative* work–home interaction. However, the same perspective may also increase our understanding of *positive* work–home interaction, since effort expenditure may also be accompanied by positive load reactions. If one feels competent and satisfied in one's work, these positive feelings could increase one's self-worth, and this may lead to positive reactions in the home sphere (and *vice versa*). The E-R model is also relevant when the relationship of work–home interaction is studied in relation to job resources and work engagement. For example, when the organisation offers valuable resources (such as social support, autonomy, performance feedback and possibilities of professional development), the employee is able to invest more time and energy to complete tasks, which will lead to the opportunity to develop skills, and to increased satisfaction. Consequently, energy will be produced rather than consumed, and effort expenditure will remain within acceptable limits. This implies that the positive load reactions that developed during work will spill over to the home domain, affecting it in a positive way. Because the individual has the opportunity to mobilise energy, the need for recovery at home is reduced and the person will start the next day in an optimal condition. Over time, this process will result in increased positive outcomes, such as work engagement (see Hackman & Oldham 1976).

Work engagement

In line with the increased interest in positive psychology, studying the opposite of burnout has been proposed in order to cover the entire continuum of work-related experiences, ranging from negative (burnout) to positive (work engagement) (see Maslach, Schaufeli & Leiter 2001; Schaufeli 2003). Burnout is characterised by exhaustion (the draining of mental energy), cynicism (a negative attitude towards work) and reduced professional efficacy (the belief that one is no longer effective in fulfilling one's job responsibilities) (Maslach et al. 2001). In contrast to burnout, work engagement is defined as a positive, fulfilling, work-related state of mind, characterised by vigour (high levels of energy while working, willingness to invest effort in work and persistence in the face of difficulties), dedication (sense of enthusiasm, inspiration, pride and challenge) and absorption (being happily engrossed in one's work, so that time seems to pass quickly and one has difficulty detaching from one's work) (Schaufeli et al. 2002). According to Schaufeli & Bakker (2001), rather than a momentary and specific state, engagement refers to a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual or behaviour.

Several researchers regard exhaustion and cynicism as the 'core components of burnout', which is illustrated by the relatively low correlations of professional efficacy with exhaustion and cynicism, the seemingly independent and parallel development of professional efficacy and the weak relationship with other variables (for overviews, see Cordes & Dougherty 1993; Green, Walkey & Taylor 1991; Lee & Ashforth 1996; Leiter 1993). It also seems that professional efficacy reflects a personality characteristic rather than a genuine component of burnout (Cordes & Dougherty 1993; Shirom 1989). Analogously, vigour and dedication are considered the 'core dimensions of engagement', while absorption is considered a relevant aspect of engagement that probably plays a less central role in the engagement concept (Schaufeli 2005; Schaufeli & Bakker 2001), rather resembles 'flow' (a state of optimal experience [Csikszentmihalyi 1990]) and seems to act as a consequence of work engagement (González-Romá, Schaufeli, Bakker & Lloret in press; Schaufeli 2005; Schaufeli & Bakker 2004). Consequently, researchers are inclined to use the core dimensions of burnout (namely, exhaustion and cynicism) and engagement (namely, vigour and dedication) when conducting research on burnout and engagement (see, for example, Langelaan, Bakker, Van Doornen & Schaufeli in press; Montgomery et al. 2003).

Job demands and job resources

Generally speaking, job demands and job resources are two sets of variables that can be distinguished in any kind of job. According to Demerouti et al. (2001), *job demands* refer to those physical, psychological, social or organisational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort and that are therefore associated with certain physiological and/or psychological costs. *Job resources* refer to those physical, psychological, social or organisational aspects of the job that (1) are functional in achieving work goals; (2) reduce job demands and the associated physiological and psychological costs; or (3) stimulate personal growth and development. Resources may be located in the task itself (for example,. performance feedback, skill variety, task significance, task identity, autonomy (see Hackman & Oldham 1976), as well as in the context of the task, for instance organisational resources (including career opportunities, job security and salary) and social resources (including supervisor and co-worker support and team climate).

Demerouti et al. (2001) successfully tested this so-called Job Demand-Resources (JD-R) model and found that job demands were associated with exhaustion, whereas lacking job resources was associated with disengagement. Following this research, other research findings, also in South Africa, have consistently shown that job resources (but not job demands) are related to work engagement (Barkhuizen 2005; Coetzer 2004; Jackson 2004; Montgomery et al. 2003; Schaufeli & Bakker 2004).

Thus, it seems that individuals who do not receive sufficient resources to achieve their work goals, to cope with demanding aspects of their work and to stimulate growth and development have lower levels of engagement in their work.

Furthermore, it seems that job resources are related to work–home interaction (Geurts & Demerouti 2003). Research found a strong relationship between two job resources, namely job control and job support, and work–home interaction. Kinnunen & Mauno (1998) and Geurts et al. (2005) found that higher levels of job control and job support were associated with less conflict between both domains (for example, Kinnunen & Mauno 1998). In a similar vein, Demerouti, Geurts & Kompier (2004) found that job control, particularly job support, was associated with positive work–home interference. Furthermore, Grzywacz & Marks (2000) found a relationship between job control, job support and work–home interference, but showed that job control was more strongly related to positive than to negative spillover between work and family.

OBJECTIVE

The objective of this study is to investigate whether positive and negative work–home interaction mediates between job resources and work engagement.

METHOD

Research design

A survey design was used to achieve the research objective. The specific design was the cross-sectional design, in which a sample is drawn from a population at a particular point in time (Shaughnessy & Zechmeister 1997).

Participants and procedure

Random samples ($n = 326$) were taken from earthmoving companies in Limpopo, Gauteng, Mpumalanga, Northern Cape, Western Cape, Eastern Cape, KwaZulu-Natal and North West. The participants were predominantly male (74.8%) and white (61.5%). Just over half the participants (52.7%) worked in the construction unit, while 20.3% worked in the mining unit. The majority of the participants spoke Afrikaans (40.9%) and 38.5% spoke English. A total of 38.2% of the participants possessed a grade 12 certificate, while 23.6% of the participants possessed a technical college diploma. Regarding the participants' household situation, most participants were married with children (52.4%). After informative meetings with representatives of management, the personnel department and employee/employer committees, all employees received paper-and-pencil questionnaires and return envelopes from work

that could be returned to the researchers involved. The questionnaires were accompanied by a letter introducing the goal of the study. The confidentiality and anonymity of the answers were emphasised. The employees were requested to complete the questionnaire in private and then to post it in a special box in their department. A reminder was sent out two weeks after the questionnaires were delivered.

Measuring instruments

The following questionnaires were utilised in the empirical study:

- **Work–home Interaction**. The *Survey Work–home Interaction – Nijmegen* (SWING) (Geurts et al. 2005; Wagena & Geurts 2000) was used to measure work–home interference and home–work interference. The SWING is a 27-item measuring instrument that was designed to measure work–home interaction. European studies (for example, Geurts et al. 2005; Wagena & Geurts 2000) indicate that the SWING measures four types of work–home interference: (1) negative interference from 'work' with 'home' (negative WHI), referring to a negative impact of the work situation on one's functioning at home (for example, 'your work schedule makes it difficult to fulfil domestic obligations'); (2) negative interference from 'home' with 'work' (negative HWI), referring to a negative impact of the home situation on one's job performance (for example, 'you have difficulty concentrating on your work because you are preoccupied with domestic matters'); (3) positive interference from 'work' with 'home' (positive WHI), referring to a positive influence of the work situation on one's functioning at home (for example, 'you come home cheerful after a successful day at work, positively affecting the atmosphere at home'); (4) positive interference from 'home' with 'work' (positive HWI), referring to a positive impact of the home situation on one's job performance (for example, 'you are better able to interact with your colleague/supervisor as a result of the environment at home'). The following Cronbach alpha coefficients were obtained for the SWING in the study of Geurts et al. (2005): Negative WHI: 0.84; Negative HWI: 0.75; Positive WHI: 0.75; Positive HWI: 0.81. All items are scored on a four-point frequency rating scale ranging from 0 (never) to 3 (always). Pieterse & Mostert (2005) confirmed the four-factor structure of the SWING in a sample of workers employed in the earthmoving equipment industry in South Africa. The following Cronbach alpha coefficients were obtained for the SWING: Negative WHI: 0.87; Negative HWI: 0.79; Positive WHI: 0.79; Positive HWI: 0.76.
- **Engagement.** The *Utrecht Work Engagement Scale* (UWES) (Schaufeli et al. 2002) was used to measure work engagement. The UWES includes three dimensions, namely Vigour, Dedication and Absorption. In this study, the 'core dimensions' of work engagement will be used, namely Vigour and Dedication (see González-

Romá et al. in press; Schaufeli & Bakker 2001; Schaufeli & Bakker 2004). The UWES is scored on a seven-point frequency rating scale, varying from 0 (never) to 6 (always) and includes questions such as 'I am bursting with energy every day in my work' and 'My job inspires me'. Alpha coefficients range between 0.80 and 0.90 (Demerouti et al. 2001). Storm & Rothmann (2003) obtained the following alpha coefficients for the UWES in a sample of 2 396 members of the South African Police Service: Vigour: 0.78; Dedication: 0.89. In a sample of South African emergency workers, Naudé & Rothmann (2004) extracted two factors using exploratory factor analysis, namely Vigour/Dedication ($\alpha = 0.87$) and Absorption, but found that Cronbach's alpha of the Absorption scale was questionable ($\alpha = 0.61$).

- **Job Resources.** Job resources included job control and job support. These characteristics were selected because of their central position in various leading job stress theories and their crucial role in effort expenditure and recovery in the job setting (for an overview, see Geurts et al. 2005; Kompier 2003). *Job control* was measured by seven items from the validated questionnaire on experience and evaluation of work (Van Veldhoven, Meijman, Broersen & Fortuin 1997) (for example, 'Can you take short breaks if you feel this is necessary?', 1 = (almost) never, 4 = always), with higher scores denoting a higher level of control. *Job support* was measured by seven items from the Job Content Questionnaire (JCQ) (Karasek 1985). Four items addressed supervisor support (for example, 'My supervisor is helpful in getting the job done', 1 = totally disagree, 5 = totally agree). Higher scores signified a higher level of job support.

Statistical analysis

The statistical analysis was carried out with the SPSS program (SPSS Inc. 2003). Exploratory factor analyses and Cronbach alpha coefficients were used to assess the validity and reliability of the constructs that were measured in this study. Descriptive statistics (for example, means, standard deviations, skewness and kurtosis) and inferential statistics were used to analyse the data.

Exploratory factor analyses were carried out to determine the construct validity of the measuring instruments. Firstly, a simple principal components analysis was conducted on the constructs that form part of the measurement model (job resources, work–home interaction and work engagement). Eigenvalues and scree plots were studied to determine the number of factors underlying each construct. Secondly, a principal components analysis with a direct oblimin rotation was conducted if factors were related. A principal component analysis with a varimax rotation was used if the obtained factors were not related (Tabachnick & Fidell 2001).

Pearson product-momentum correlation coefficients were used to specify the relationships between the variables. In cases where the distribution of scores was skew,

Spearman correlation coefficients were computed. The level of statistical significance was set at $p < 0.01$. Steyn (2002) criticises the sole use of statistical significance testing and recommends that effect sizes be established to determine the importance of a statistically significant relationship. While the reporting of effect sizes is encouraged by the American Psychological Association (APA) in their *Publication Manual* (APA 2001), most of these measures are seldom found in published reports (Kirk 1996; Steyn 2002). Effect sizes (Cohen 1988; Steyn 2002) were used in addition to statistical significance to determine the practical significance of relationships. Effect sizes indicate whether obtained results are important, while statistical significance may often show results that are of little practical relevance (Steyn 2002). A cut-off point of 0.30 (medium effect) (Cohen 1988) was set for the practical significance of correlation coefficients.

Multiple regression analysis was used to determine mediation. The four steps suggested by Baron & Kenny (1986) were followed with job control/job support (as independent variable A), work–home interaction (as hypothesised mediator B) and engagement (as dependent variable C). According to these authors, beta coefficients of different regression equations must be compared. In the first step, the effect of the independent variable (A) on the dependent variable (C) was determined. In the second step, the effect of the independent variable (A) on variable B (the hypothesised mediator) was determined. In step three, it was determined how variable B affected the dependent variable C, while controlling for the independent variable (A). Lastly, the dependent variable (C) should be regressed on the independent variable (A), controlling for the mediator (B). If all steps prove significant, perfect mediation holds when, controlling for the mediator, the independent variable does not predict the dependent variable.

RESULTS

Construct validity of the measuring instruments

- **Job resources.** A simple principal component analysis was conducted on the job control and job support items. The scree plot and eigenvalues provided evidence for a three-factor solution (for example, job control, supervisor support and colleague support), which explained 59.17% of the total variance. Subsequently, the three factors were subjected to a second-order principal component factor analysis. Two factors, which explained 84.811% of the variance, were extracted. Because the factors were related ($r = 0.28$), it was decided to use principal factor analysis with an oblimin rotation to extract the factors. *Job control* (loading = 1.00) formed the first factor, while Colleague Support (loading = 0.88) and Supervisor Support (loading = 0.88) formed the second factor (labelled *Job support*).

- **Work–home Interaction.** Only one study has investigated the psychometric properties of the SWING in South Africa. Pieterse & Mostert (2005) confirmed the reliability, construct validity and construct equivalence for different language groups in the earthmoving equipment industry. However, they recommended that three items be dropped from the questionnaire. These items were Item 23 ('After spending a pleasant weekend with your spouse/family/friends, you have more fun at your job'), Item 14 ('You arrive late at work because of domestic obligations') and Item 10 ('The situation at home makes you so irritable that you take your frustrations out on your colleagues'). Based on these findings, these three problematic items were removed and a simple factor analysis was conducted. The scree plot and eigenvalues showed four factors, which explained 53.12% of the total variance. Principal component analysis with an oblimin rotation resulted in four factors, which were labelled *Negative Work–home Interference* (Negative WHI), *Negative Home–work Interference* (Negative HWI), *Positive Work–home Interference* (Positive WHI), and *Positive Home–work Interference* (Positive HWI).
- **Work engagement.** A simple principal component analysis was conducted with two of the subscales of the UWES (namely, Vigour and Dedication). The scree plot and eigenvalues provided evidence for a one-factor solution, which explained 48.69% of the total variance. As a result, it was decided to use a one-dimensional engagement factor that included three Vigour items (Items 12, 15 and 17) and five Dedication items (Items 2, 5, 8, 10 and 13).

Descriptive statistics

Table 1 shows the descriptive statistics and the Cronbach alpha coefficients of the measuring instruments.

Table 1: Descriptive statistics and alpha coefficients of the measuring instruments

Item	Mean	SD	Skewness	Kurtosis	α
Job Control	13.39	3.74	0.25	-0.33	0.76
Job Support	14.74	4.53	1.01*	2.31*	0.85
Negative WHI	8.91	5.05	0.44	-0.20	0.87
Positive WHI	9.48	3.79	0.30	-0.40	0.79
Negative HWI	3.24	2.83	1.32*	2.47*	0.79
Positive HWI	11.56	3.78	-0.12	-0.68	0.76
Engagement	69.36	13.60	-0.99	1.26	0.84

* High skewness and kurtosis

An inspection of Table 1 shows that the scores on the measuring instruments are normally distributed, except for the Negative HWI and Job Support scales. Accept-

able Cronbach alpha coefficients were obtained for all the scales. All the alpha coefficients were higher than the guideline of α 0.70 (Nunnally & Bernstein 1994).

Correlations between the constructs

The product-moment correlation coefficients between constructs are reported in Table 2.

Table 2: Product-moment correlations between the constructs

	1	2	3	4	5	6
1. Job Control	–	–	–	–	–	–
2. Job Support	0.28*	–	–	–	–	–
3. Negative WHI	-0.31*+	-0.28*	–	–	–	–
4. Positive WHI	0.24*	0.30*+	-0.24*	–	–	–
5. Negative HWI	-0.17*	-0.21*	0.41*+	-0.16*	–	–
6. Positive HWI	0.15*	0.17*	-0.19*	0.56*++	-0.18*	–
7. Engagement	0.24*	0.39*+	-0.28*	0.37*+	-0.28*	0.35*+

* Correlation is statistically significant: $p < 0.01$
\+ Correlation is practically significant (medium effect): $r > 0.30$
++ Correlation is practically significant (large effect): $r > 0.50$

As can be seen in Table 2, all the correlations between the various constructs are statistically significant ($p < 0.01$). More specifically, Job Control is statistically significantly and positively related to Job Support, Positive WHI, Positive HWI and Engagement, and statistically significantly and negatively related to Negative HWI. Job Control is negatively, statistically and practically significantly related (with a medium effect) to Negative WHI. Furthermore, Job Support has a positive relationship with Positive HWI (statistically significant) as well as with Positive WHI and Engagement (statistically and practically significant, with a medium effect). Negative WHI and Negative HWI have a negative and statistically significantly relationship with Positive WHI, Positive HWI and Engagement, while Positive WHI and Positive HWI are positively, statistically and practically significantly (with a medium effect) related to Engagement.

Multiple regression analyses

Next, a series of multiple regression analyses were performed to test whether job resources (job control as measured by the questionnaire on experience and evaluation at work and job support as measured by the JCQ) predicted engagement (as measured by the UWES), and to test whether work–home interaction (as measured by the SWING) mediated the relationship between job resources and engagement.

First of all, mediation of work–home interaction was determined between job control and engagement. Following the steps of Baron & Kenny (1986), the first step (not shown in Table 3) was to perform a regression analysis with Job Control as independent variable (A) and Engagement as dependent variable (C). This resulted in a statistically significant model ($F = 20.76_{(1.324)}$; $\beta = 0.25$; $t = 4.56$; $p < 0.00$) and lent support to the first criterion set by Baron & Kenny. The second step was to perform a regression analysis with Job Control as independent variable (A) and Negative WHI, Positive WHI, Negative HWI and Positive HWI as hypothesised mediator (B) (not shown in Table 3). Again, the results showed statistically significant models (Negative WHI: $F = 33.98_{(1.324)}$; $\beta = -0.31$; $t = -5.83$; $p < 0.00$. Positive WHI: $F = 18.71_{(1.324)}$; $\beta = 0.23$; $t = 4.33$; $p < 0.00$. Negative HWI: $F = 8.80_{(1.324)}$; $\beta = -0.16$; $t = -2.97$; $p < 0.00$. Positive HWI: $F = 6.26_{(1.324)}$; $\beta = 0.14$; $t = 2.50$; $p < 0.01$). These results lent support to the second criterion set by Baron & Kenny (1986). In the third step, it was determined how the mediator B (for example, Negative WHI, Positive WHI, Negative HWI and Positive HWI) affected the dependent variable C (for example, Engagement). The results also showed statistically significant results (Negative WHI: $F = 27.28_{(1.324)}$; $\beta = -0.28$; $t = -5.22$; $p < 0.00$. Positive WHI: $F = 52.59_{(1.324)}$; $\beta = 0.37$; $t = 7.25$; $p < 0.00$. Negative HWI: $F = 23.17_{(1.324)}$; $\beta = -0.26$; $t = -4.81$; $p < 0.00$. Positive HWI: $F = 32.41_{(1.324)}$; $\beta = 0.30$; $t = 5.69$; $p < 0.01$), providing support for the third criterion set by Baron & Kenny. Finally, in order to test adherence to the fourth criterion and to test the possible mediating role of work–home interaction in the relationship between job control and engagement, Engagement was regressed on Job Control, controlling for work–home interaction. The results are reported in Table 3.

Table 3 shows that, although the regression coefficients of Job Control remain statistically significant each time upon inclusion of the four dimensions of work–home interaction, the standardised regression coefficients (beta) of Job Control decrease when workhome interaction is entered in the regression analysis. Furthermore, based upon Baron & Kenny's (1986) fourth criterion, which states that perfect mediation would be applicable when the independent variable does not predict the dependent variable when controlling for the mediator, perfect mediation does not apply in these cases. However, given the reduction in the standardised regression coefficient (beta) of Job Control upon inclusion of the four work–home interaction dimensions, it appears that proof exists for a partially mediating effect of work–home interaction in the relationship between job control and engagement. Job Control predicted 6% of the variance in Engagement, which increased to 11% when combined with Negative WHI, to 17% when combined with Positive WHI, to 11% when combined with Negative HWI and to 13% when combined with Positive HWI.

Next, the possible mediating role of work–home interaction in the relationship between job support and engagement was investigated. Firstly, a regression analysis was performed with Job Support as independent variable (A) and Engagement as

Table 3: Multiple regression analyses with Engagement as dependent variable, and Job Control and Work–home Interaction as independent variables

Independent variables: Job Control and Negative WHI									
Model	Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
	B	SE	Beta						
1 (Constant)	81.38	2.75		29.57	0.00	20.76*	0.25	0.06	0.06
Job Control	0.91	0.20	0.25	4.56	0.00				
2 (Constant)	83.38	2.73		30.50	0.00	19.11*	0.33	0.11	0.05
Job Control	0.65	0.20	0.18	3.19	0.02				
Negative WHI	-0.60	0.15	-0.22	-4.06	0.00				
Independent variables: Job Control and Positive WHI									
Model	Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
	B	SE	Beta						
1 (Constant)	81.38	2.75		29.57	0.00	20.76*	0.25	0.06	0.06
Job Control	0.91	0.20	0.25	4.56	0.00				
2 (Constant)	66.12	3.53		18.76	0.00	32.17*	0.41	0.17	0.11
Job Control	0.62	0.20	0.17	3.20	0.02				
Positive WHI	1.20	0.19	0.34	6.41	0.00				
Independent variables: Job Control and Negative HWI									
Model	Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
	B	SE	Beta						
1 (Constant)	81.38	2.75		29.57	0.00	20.76*	0.25	0.06	0.06
Job Control	0.91	0.20	0.25	4.56	0.00				
2 (Constant)	83.00	2.71		30.61	0.00	19.80*	0.33	0.11	0.05
Job Control	0.77	0.20	0.21	3.93	0.00				
Negative HWI	-1.35	0.32	-0.22	-4.22	0.00				
Independent variables: Job Control and Positive HWI									
Model	Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
	B	SE	Beta						
1 (Constant)	81.38	2.75		29.57	0.00	20.76*	0.25	0.06	0.06
Job Control	0.91	0.20	0.25	4.56	0.00				
2 (Constant)	68.84	3.58		19.25	0.00	24.84*	0.37	0.13	0.07
Job Control	0.77	0.19	0.21	3.97	0.00				
Positive HWI	1.13	0.22	0.27	5.22	0.00				

* $p < 0.05$

dependent variable (C) (not shown in Table 4). This resulted in a statistically significant model ($F = 59.90_{(1.324)}$; $\beta = 0.40$; $t = 7.74$; $p < 0.00$), supporting the first criterion set by Baron & Kenny. Secondly, a regression analysis was performed with Job Support as independent variable (A) and Negative WHI, Positive WHI, Negative HWI and Positive HWI as hypothesised mediator (B) (not shown in Table 4). The results showed statistically significant models (Negative WHI: $F = 27.49_{(1.324)}$; $\beta = -0.28$; $t = -5.24$; $p < 0.00$. Positive WHI: $F = 33.87_{(1.324)}$; $\beta = 0.31$; $t = 5.82$; $p < 0.00$. Negative HWI: $F = 18.50_{(1.324)}$; $\beta = -0.23$; $t = -4.30$; $p < 0.00$. Positive HWI: $F = 8.02_{(1.324)}$; $\beta = 0.15$; $t = 2.83$; $p < 0.01$), lending support to the second criterion set by Baron & Kenny. The third step, to determine how the mediator (B) affected the dependent variable (C), had already been determined (see mediation analysis of job control, work–home interaction and engagement). Finally, in order to test adherence to the fourth criterion and to test the possible mediating role of work–home interaction in the relationship between job support and engagement, Engagement was regressed on Job Support, controlling for work–home interaction. The results are reported in Table 4.

From Table 4, it is evident that, although the regression coefficients of Job Support remain statistically significant each time upon inclusion of the four dimensions of work–home interaction, the standardised regression coefficients (beta) of Job Support decrease when controlling for work–home interaction. Furthermore, it can be seen that there is evidence for a partially mediating effect of work–home interaction in the relationship between job support and engagement, given the reduction in the standardised regression coefficient (beta) of Job Support upon inclusion of the four work–home interaction dimensions. In addition, Job Support predicted 16% of the variance in Engagement, which increased to 19% when combined with Negative WHI, to 23% when combined with Positive WHI, to 19% when combined with Negative HWI and to 22% when combined with Positive HWI.

These findings indicate that job control, and especially job support, contributes towards work engagement and that the effects of the relationships between job resources (job control and job resources) and work engagement are partially mediated by all four dimensions of work–home interaction.

DISCUSSION

The aim of this study was to test whether positive and negative work–home interactions fully or partially mediate between job resources (job control and job support) on the one hand and work engagement on the other. A theoretical limitation in the work–home interaction literature was overcome by drawing on the insights of a conceptually strong framework, namely the Effort-Recovery model. The multiple regression analysis showed that job control and job support contributed to work engagement, and that all four dimensions of work–home interaction partially medi-

Table 4: Multiple regression analyses with Engagement as dependent variable, and Job Support and Work–home Interaction as independent variables

Independent variables: Job Control and Negative WHI									
Model	Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
	B	SE	Beta						
1 (Constant)	87.23	2.42		36.05	0.00	59.90*	0.40	0.16	0.16
Job Support	1.22	0.16	0.40	7.74	0.00				
2 (Constant)	89.30	2.45		36.43	0.00	37.08*	0.43	0.19	0.03
Job Support	1.06	0.16	0.34	6.58	0.00				
Negative WHI	-0.49	0.14	-0.18	-3.49	0.01				
Independent variables: Job Support and Positive WHI									
Model	Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
	B	SE	Beta						
1 (Constant)	87.23	2.42		36.05	0.00	59.90*	0.40	0.16	0.16
Job Support	1.22	0.16	0.40	7.74	0.00				
2 (Constant)	73.84	3.39		21.78	0.00	47.23*	0.48	0.23	0.07
Job Support	0.95	0.16	0.31	6.01	0.00				
Positive WHI	1.00	0.19	0.28	5.42	0.00				
Independent variables: Job Support and Negative HWI									
Model	Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
	B	SE	Beta						
1 (Constant)	87.23	2.42		36.05	0.00	59.90*	0.40	0.16	0.16
Job Support	1.22	0.16	0.40	7.74	0.00				
2 (Constant)	88.05	2.39		36.79	0.00	36.74*	0.43	0.19	0.03
Job Support	1.09	0.16	0.35	6.86	0.00				
Negative HWI	-1.06	0.31	-0.18	-3.41	0.01				
Independent variables: Job Support and Positive HWI									
Model	Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
	B	SE	Beta						
1 (Constant)	87.23	2.42		36.05	0.00	59.90*	0.40	0.16	0.16
Job Support	1.22	0.16	0.40	7.74	0.00				
2 (Constant)	75.85	3.28		23.10	0.00	44.27*	0.46	0.22	0.06
Job Support	1.10	0.15	0.36	7.15	0.00				
Positive HWI	1.02	0.21	0.25	4.93	0.00				

* $p < 0.05$

ated the relationship between job control and job support with work engagement, supporting the results of previous studies (for example, Bakker & Geurts 2004; Montgomery et al. 2003).

The practical implications of these findings are that employees who have control over their work and receive support from their colleagues and supervisors experience more positive and less negative spillover effects from their work to their home. With this feeling of control and knowing that they have the support of their colleagues and superiors, they feel more relaxed at home and have the opportunity to recover sufficiently from a day at work. Furthermore, the availability of job resources (such as job control and support) are functional in meeting job demands and may therefore facilitate recovery at work – and consequently reduce the need for recovery at home, influence the atmosphere at home in a positive way and leave room for pleasant interactions with family members. With this relaxed atmosphere at home, necessary recovery can take place, implying that the exposure to built-up load reactions developed at work can cease and that the respective psychological systems can stabilise at the specific baseline level. As a result, fatigue and other effects of stressful situations at work are reduced, leaving the person revitalised, ready and motivated for the next day at work.

However, a chronic lack of resources may result in a negative interference of work with family life. This interference reduces opportunities to recover, which implies that – in the long run – employees have to make compensatory efforts (Bakker & Geurts 2004). Consequently, when an individual has a certain number of demands to face, but does not have control over his/her work and lacks the support of people surrounding him/her in the workplace, it could easily lead to frustration and feelings of powerlessness, which could spill over to the private domain, creating tension at home and preventing efficient recovery. When sufficient recovery does not take place, it is difficult for load reactions that developed at work to be reversed and stabilise at the normal baseline level. This leaves the person fatigued and not well rested, impairing his/her functioning at work and leading to lower levels of work engagement.

These findings stress the importance of life outside work and the impact it has on how individuals feel and behave during working hours. The findings also emphasise the importance of recovery at home and its influence on the individual's motivation and engagement at work. Furthermore, these findings support the general notion that well-being and engagement at work benefit from positive mood experiences at home (Williams & Alliger 1994) and from the absence of conflicts between family and work (Frone 2000; Kossek & Ozeki 1999; Netemeyer, Boles & McMurrian 1996). The findings also support the notion that periods of rest from work are of particular importance for maintaining well-being at work (Eden 2001; Quick & Quick 1984).

However, more positive and less negative interaction between work and home (and sufficient recovery) only plays a partial mediating role in the relationship between job resources (job control and job support) and work engagement.

Therefore, the crucial role that job resources such as control and, particularly, support play in the work engagement of employees must not be underestimated. It is thus important that employees should feel that they have a certain amount of autonomy or control in their job (for example, in deciding for themselves how to carry out their job, deciding to take a short break if they feel that it is necessary, influencing decisions about when a piece of work must be completed and how much time should be devoted to a particular task). Even more important than autonomy is the support that employees receive from their supervisors and colleagues. Employees who feel that they have sufficient support from supervisors and colleagues (for example, supervisors and colleagues paying attention to what they are saying, getting along with their colleagues, feeling that supervisors and colleagues help them to get the job done) will be more engaged in their work.

Although these are important findings, it is also necessary to note some limitations of the current study. The main limitation is that the design of the study is cross-sectional. This implies that the postulated relationships between job resources, work–home interaction and work engagement cannot be interpreted causally. Furthermore, although the current study treated work–home interaction as a mediator between job resources and work engagement, several studies indicate that work–home interaction could be seen as a stressor, a strain or an outcome of strain (Bakker & Geurts 2004; Frone, Russell & Cooper 1992; Grzywacz & Marks 2000; Kinnunen & Mauno 1998). However, according to Bakker & Geurts (2004), it is possible that work–home interaction could play each of these roles.

The second limitation of the study is the utilisation of self-reported measures, which increases the possibility of contamination of the reported relationships through common-method variance. However, several studies have indicated that common method variance is not as troublesome as one might expect (Semmer, Zapf & Grief 1996; Spector 1992). It also seems that the employee is the most important source that can offer the most accurate information regarding his/her unique work situation (see, for example, Frese & Zapf 1999). Subjective methods such as observers' ratings appear to be good alternatives, but also present problems of their own (such as observer's bias, halo and stereotyping effects).

Finally, the current study focused on a limited number of variables and did not take into account some of the variables that have been found to be related to work–home interaction (including psychological involvement, personality variables and demographical characteristics). It therefore seems important for future research to examine a model with different sets of variables.

RECOMMENDATIONS

This study confirms the notion that sufficient control over your work and the support of colleagues and supervisors play a major role in facilitating positive spillover and

help to avoid negative spillover from work to home. Moreover, this study has shown that positive work–home interaction and sufficient recovery are crucial for higher work engagement.

It seems that employees working in the earthmoving equipment industry may benefit from a work environment that offers support from colleagues and supervisors, where they can exert control over their jobs and where resources are available to help them deal with demands at work. Strategies to enhance positive work–home interaction and avoid negative spillover from work to home should therefore focus on the implementation of job resources that actually influence work–home interaction. This will help individuals to recover sufficiently at home, which will again lead to a positive spillover effect from home to work and to increased work engagement. However, when effective strategies to increase job resources are not implemented, it could lead to a negative interaction between work and home, which could hamper the recovery process. If individuals do not recover sufficiently, they may not only miss a pleasant experience, but may also start the next working day in a suboptimal state, which would hinder full work engagement.

Furthermore, in order to promote work–life balance and to prevent negative interference between work and home, companies should provide work–family facilities that enable employees to better align both life spheres. However, they need to focus not only on formal policies (for instance, by offering compressed work schedules, flexible starting and finishing times, childcare facilities and parental leave), but also on the informal work environment (Geurts & Demerouti 2003). According to Cohen (1997), employees who struggle with balancing their work and family responsibilities may benefit more from an informal family-friendly organisational climate than from formal family-friendly policies. Consequently, in addition to having a 'family-friendly policy' (the formal arrangements that are provided by the company), companies should also create a company culture in which employees who experience work–home interference will feel entitled to use the facilities that are available. The attitude of supervisors and colleagues towards the use of these formal arrangements should therefore also be 'family-friendly'.

AUTHOR'S NOTE

The material described in this article is based on work supported by the National Research Foundation under grant number 2054383.

REFERENCES

Allen, T.D., Herst, D.E., Bruck, C.S. & Sutton, M. 2000. 'Consequences associated with work-to-family conflict: a review and agenda for future research', *Journal of Occupational Health Psychology,* 5: 278–308.

American Psychological Association. 2001. *Publication Manual of the American Psychological Association,* 5th edition. Washington, DC: American Psychological Association.

Bakker, A.B. & Geurts, S.A.E. 2004. 'Toward a dual-process model of work–home interference', *Work and Occupations,* 31: 345–366.

Barkhuizen, E.N. 2005. Work wellness of academic staff in South African higher education institutions. Unpublished doctoral thesis, North-West University, Potchefstroom.

Baron, R.M. & Kenny, D.A. 1986. 'The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations', *Journal of Personality and Social Psychology,* 51: 1173–1182.

Bond, J.T., Galinsky, E. & Swanberg, J.E. 1998. *The 1997 National Study of the Changing Workforce.* New York: Families and Work Institute.

Coetzer, W.J. 2004. Burnout and work engagement of employees in an insurance company. Unpublished doctoral thesis, North-West University, Potchefstroom.

Cohen, A. 1997. 'Personal and organizational responses to work-nonwork interface as related to organizational commitment', *Journal of Applied Psychology,* 27: 1085–1114.

Cohen, J. 1988. *Statistical Power Analysis for the Behavioral Sciences,* revised edition. Orlando, FL: Academic Press.

Cordes, C.L. & Dougherty, T.W. 1993. 'A review and an integration of research on job burnout', *Academy of Management Review,* 18: 621–656.

Csikszentmihalyi, M. 1990. *Flow: the Psychology of Optimal Experience.* New York: Harper & Row.

Demerouti, E., Bakker, A.B., Nachreiner, F. & Schaufeli, W.B. 2001. 'The job demands-resources model of burnout', *Journal of Applied Psychology,* 86: 499–512.

Demerouti, E., Geurts, S.A.E. & Kompier, M.A.J. 2004. 'Positive and negative work-home interaction: prevalence and correlates', *Equal Opportunities International,* 23(1): 6–35.

Drenth, P.J.D., Thierry, H. & De Wolff, C.J. (eds). 1998. *Handbook of Work and Organizational Psychology: Work Psychology,* 2nd edition. East Sussex: Psychology Press.

Eden, D. 2001. 'Vacations and other respites: Studying stress on and off the job', In Cooper, C.L. & Robertson, T.T. (eds), *International Review of Industrial and Organizational Psychology,* pp. 121–146. Chichester: Wiley.

Ferber, M.A., O'Farrell, B. & Allen, L.R. (eds). 1991. *Work and Family: Policies for a Changing Work Force.* Washington, DC: National Academy Press.

Frese, M. & Zapf, D. 1999. 'On the importance of the objective environment in stress and attribution theory', *Journal of Organizational Behavior,* 20: 761–766.

Frone, M.R. 2000. 'Work–family conflict and employee psychiatric disorders: The national comorbidity survey', *Journal of Applied Psychology,* 85: 888–895.

Frone, M.R. 2003. 'Work–family balance', In Quick, J.C. & Tetrick, L.E. (eds), *The Handbook of Occupational Health Psychology,* pp. 143162. Washington, DC: American Psychological Association.

Frone, M.R., Russell, M. & Cooper, M.L. 1992. 'Antecedents and outcomes of work–family conflict: Testing a model of the work-family interface', *Journal of Applied Psychology,* 77: 65–78.

Geurts, S.A.E. & Demerouti, E. 2003. 'Work/non-work interface: A review of theories and findings', In Schabracq, M.J., Winnubst, J.A.M. & Cooper, C.L. (eds), *The Handbook of Work and Health Psychology,* pp. 279–312. Chichester: Wiley.

Geurts, S.A.E., Taris, T.W., Kompier, M.A.J., Dikkers, J.S.E., Van Hooff, M.L.M. & Kinnunen, U.M. 2005. 'Work–home interaction from a work psychological perspective: development and validation of a new questionnaire, the SWING', *Work and Stress,* 19(4): 319–339.

González-Romá, V., Schaufeli, W.B., Bakker, A.B. & Lloret, S. In press. 'Burnout and work engagement: independent factors or opposite poles', *Journal of Vocational Behavior.*

Grandey, A. & Cropanzano, R. 1999. 'The conservation of resources model applied to work–family conflict and strain', *Journal of Vocational Behavior,* 54: 350–370.

Green, D.E., Walkey, F.H. & Taylor, A.J.W. 1991. 'The three-factor structure of the Maslach Burnout Inventory', *Journal of Social Behavior and Personality,* 6: 453–472.

Greenhaus, J.H. & Beutell, N.J. 1985. 'Sources of conflict between work and family roles', *Academy of Management Review,* 10: 76–88.

Grzywacz, J.G. & Marks, N.F. 2000. 'Reconceptualizing the work–family interface: an ecological perspective on the correlates of positive and negative spillover between work and family', *Journal of Occupational Health Psychology,* 5: 111–126.

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.

Houston, D.M. 2005. *Work–life balance in the 21st century.* Hampshire: Palgrave Macmillan.

Jackson, L.T.B. 2004. Burnout and engagement of teachers: a cross-cultural study. Unpublished doctoral thesis, North-West University, Potchefstroom.

Karasek, R.A. 1985. *Job Content Instrument: Questionnaire and User's Guide*. Los Angeles, CA: Department of Industrial and Systems Engineering, University of Southern California.

Kinnunen, U. & Mauno, S. 1998. 'Antecedents and outcomes of work–family conflict among employed women and men in Finland', *Human Relations,* 51: 157–177.

Kirk, R.E. 1996. 'Practical significance: a concept whose time has come', *Educational and Psychological Measurement,* 56: 746–759.

Kompier, M.A.J. 2003. 'Job design and well-being', In Schabracq, M. Winnubst, J. & Cooper, C.L. (eds), *Handbook of Work and Health Psychology,* pp. 429–454. Chichester: Wiley.

Kossek, E.E. & Ozeki, C. 1999. 'Bridging the work family policy and productivity gap: a literature review', *Community, Work and Family,* 2: 7–32.

Langelaan, S., Bakker, A.B., Van Doornen, L.J.P. & Schaufeli, W.B. In press. 'Burnout and work engagement: do individual differences make a difference?', *Personality and Individual Differences.*

Lee, R.T. & Ashforth, B.T. 1996. 'A meta-analytic examination of the correlates of the three dimensions of job burnout', *Journal of Applied Psychology,* 81: 123–133.

Leiter, M.P. 1993. 'Burnout as a developmental process: consideration of models', In Schaufeli, W.B., Maslach, C. & Marek, T. (eds), *Professional Burnout: Recent Developments in Theory and Research,* pp. 237–250. Washington, DC: Taylor & Francis.

Lewis, S. & Cooper, C.L. 2005. *Work–life Integration: Case Studies of Organisational Change*. Chichester: Wiley.

Maslach, C., Schaufeli, W.B. & Leiter, M. P. 2001. 'Job burnout', *Annual Review of Psychology,* 52: 397–422.

Meijman, T.F. & Mulder, G. 1998. 'Psychological aspects of workload', In Drenth, P.J., Thierry, H. & de Wolff, C.J. (eds), *Handbook of Work and Organizational Psychology,* 2nd edition, pp. 5–33. Hove: Erlbaum.

Montgomery, A.J., Peeters, M.C.W., Schaufeli, W.B. & Den Ouden, M. 2003. 'Work–home interference among newspaper managers: its relationship with burnout and engagement', *Anxiety, Stress, and Coping*, 16: 195–211.

Naudé, J.L.P. & Rothmann, S. 2004. 'The validation of the Utrecht Work Engagement Scale for emergency medical technicians in Gauteng', *South African Journal of Economic and Management Sciences,* 7: 473–487.

Netemeyer, R.G., Boles, J.S. & McMurrian, R. 1996. 'Development and validation of work–family conflict and family–work conflict scales', *Journal of Applied Psychology,* 81: 400–410.

Nunnally, J.C. & Bernstein, I.H. 1994. *Psychometric Theory,* 3rd edition. New York: McGraw-Hill.

Parasuraman, S. & Greenhaus, J.H. 1999. *Integrating Work and Family: Challenges for a Changing World.* Westport, CT: Praeger.

Pieterse, M. & Mostert, K. 2005. 'Measuring work–home interaction: validation of the Survey Work–home Interaction – Nijmegen (SWING) Instrument', *Management Dynamics,* 14(2): 2–15.

Quick, J.C. & Quick, J.D. 1984. *Organizational Stress and Preventive Management.* New York: McGraw-Hill.

Schaufeli, W.B. 2003. 'Past performance and future perspectives of burnout research', *South African Journal of Industrial Psychology,* 29(4): 1–15.

Schaufeli, W.B. 2005. Energy and identification as basic dimensions of burnout and engagement. Paper presented at the 12th European Congress on Work and Organizational Psychology, Istanbul, Turkey.

Schaufeli, W.B. & Bakker, A.B. 2001. 'Werk en welbevinden: Naar een positieve benadering in de arbeids- en gezondheidspsychologie [Work and wellbeing: Towards a positive occupational health psychology]', *Gedrag en Organizatie,* 14: 229–253.

Schaufeli, W.B. & Bakker, A.B. 2004. 'Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study', *Journal of Organizational Behavior,* 25: 293–315.

Schaufeli, W.B., Salanova, M., González-Romá, V. & Bakker, A.B. 2002. 'The measurement of engagement and burnout: a two sample confirmatory factor analytic approach', *Journal of Happiness Studies,* 3: 71–92.

Schreuder, A.M.G. & Theron, A.L. 2001. *Careers: an Organizational Perspective,* 2nd edition. Lansdowne: Juta.

Semmer, N., Zapf, D. & Grief, S. 1996. 'Shared job strain: A new approach for assessing the validity of job stress measurements', *Journal of Occupational and Organizational Psychology,* 69: 293–310.

Shaughnessy, J.J. & Zechmeister, E.B. 1997. *Research Methods in Psychology,* 4th edition. New York: McGraw-Hill.

Shirom, A. 1989. 'Burnout in work organizations', In Cooper, C.L. & Robertson, I.T. (eds), *International Review of Industrial and Organizational Psychology,* pp. 25–48. Chichester: Wiley.

Sonnentag, S. 2003. 'Recovery, work engagement, and proactive behavior: a new look at the interface between non-work and work', *Journal of Applied Psychology,* 88: 518–528.

Spector, P.E. 1992. 'A consideration of the validity and meaning of self-report measures of job conditions', In Cooper, C.L. & Robertson, I.T. (eds), *International Review of Industrial and Organizational Psychology,* pp. 281–328. Chichester: Wiley.

SPSS Inc. 2003. *SPSS 12.0 for Windows.* Chicago, IL: Author.

Steyn, H.S. 2002. 'Practically significant relationships between two variables', *South African Journal of Industrial Psychology,* 28(3): 10–15.

Storm, K. & Rothmann, S. 2003. 'A psychometric analysis of the Utrecht Work Engagement Scale in the South African Police Service', *South African Journal of Industrial Psychology,* 29(4): 62–70.

Sulsky, L. & Smith, C. 2005. *Work Stress.* Belmont, CA: Thomson Wadsworth.

Tabachnick, B.G. & Fidell, L.S. 2001. *Using Multivariate Statistics,* 4th edition. Boston, MA: Allyn and Bacon.

Van Veldhoven, M., Meijman, T.F., Broersen, J.P.J. & Fortuin, R.J. 1997. *Handleiding VBBA: Onderzoek naar de Beleving van Psychosociale Arbeidsbelasting en Werkstress met Behulp van de Vragenlijst Beleving en Beoordeling van de Arbeid* [Manual VBBA: Research on the experience of psychosocial work load and job stress with the Questionnaire on the Experience and Evaluation of Work]. Amsterdam: SKB.

Wagena, E. & Geurts, S.A.E. 2000. 'SWING. Ontwikkeling en validering van de 'Survey Werk–Thuis Interferentie Nijmegen' [SWING. Development and validation of the 'Survey Work–Home Interference Nijmegen']', *Gedrag en Gezondheid,* 28: 138–158.

Williams, K.J. & Alliger, G.M. 1994. 'Role stressors, mood spillover, and perceptions of work-family conflict in employed parents', *Academy of Management Journal,* 37: 837–868.

The projected household consumption expenditure impacts of HIV/AIDS in South Africa, 2003–2015

C.J. van Aardt

ABSTRACT

There is at present no consensus regarding the severity of the current and expected future impact of HIV/AIDS on South Africa. While some studies conclude that HIV/AIDS will decimate the South African economy, other studies conclude that HIV/AIDS will have very little impact. Although the macro-economic impact of HIV/AIDS is not clear, there is consensus that it is already having marked household income and expenditure impacts. Household consumption expenditure impacts of HIV/AIDS in South Africa were investigated in this article by combining a demographic model pertaining to the number of people in the different stages of HIV/AIDS with an econometric model, namely an input–ouput model in the form of supply and use tables. It appears from the results of the econometric model that there will be widespread differences in household consumption expenditure between HIV/AIDS and non-HIV/AIDS scenarios. Differences between these scenarios are expected to be especially significant with regard to foodstuffs, basic semidurables such as knitting mill products and wearing apparel, beverages and tobacco products, and some durable products (such as rubber tyres and household appliances). Whereas HIV/AIDS is expected to result in a decline in household consumption on durables, semidurables and nondurables, it will give rise to increased household consumption expenditure on a wide range of services. The future impact of HIV/AIDS on household consumption expenditure will be influenced by changes in the epidemiological pattern of HIV/AIDS, changes in government policies and practices and the availability of vaccines and antiretroviral drugs, although it needs to be remembered that about 6 million people are already HIV-positive and nearly 2 million of them are already in the later stages of HIV/AIDS, which sets the scene for severe household impacts of HIV/AIDS on household consumption expenditure regardless of such changes. In conclusion, some implications of the results of this study for businesses are provided.

BACKGROUND

A study conducted by Bell, Devarajan & Gersbach (2003) projects that AIDS could possibly give rise to a complete collapse of the South African economy within three

Prof. C.J. van Aardt is at the Bureau of Market Research, University of South Africa. E-mail: vaardcj@unisa.ac.za

generations. This study has resulted in renewed debate about the economic impact of HIV/AIDS in South Africa, especially since some reports, such as that of Arndt & Lewis (2000), maintain that the impact of HIV/AIDS on the macroeconomy will be far more subdued than frequently anticipated, but that the impact of HIV/AIDS on households will be far-reaching (Bollinger & Stover 1999). Although the level at which HIV/AIDS impacts on households and its impact on the macroeconomy can be disputed, it cannot be disputed that HIV/AIDS is already having marked household income and expenditure impacts, with an estimated 5.2 million (Human Sciences Research Council 2005) to 6.3 million HIV-positive cases during 2005 (Department of Health 2005). Taking into account that the toll of the HIV/AIDS epidemic on households is continuing to rise in South Africa, it can be assumed that HIV/AIDS will have even more negative household income and expenditure effects in South Africa during the years ahead (UNAIDS 2002). This is especially true in the light of an expected number of 7.4 million South Africans being HIV-positive by 2010 (Health Systems Trust 2006).

Furthermore, whereas UNAIDS (2002) earlier opined that HIV/AIDS prevalence rates had reached a natural limit by the late 1990s, beyond which they would not rise, new data have shown that this did not occur. Instead, available data reveal that HIV prevalence rates in South Africa are still on the increase and that in specific age groups, such as the 15–29 year age group, very high future prevalence rates are anticipated (Department of Health 2005).

STATEMENT OF THE RESEARCH PROBLEM

South Africa has the highest HIV prevalence rates in the world. By 2005 it was estimated that almost 30% of adults were HIV-positive (Department of Health 2005). Furthermore, by 2005 more than half of all deaths between the ages of 15 and 49 years were estimated to be AIDS-related, and by 2010 about 90% of all deaths in this age group will be AIDS-related (Haacker 2002).

Having pointed out the demographic impact of HIV/AIDS on the South African population, the question of how this demographic impact will translate into household expenditure impacts can now be raised. In this regard, Haacker (2002) indicates that HIV/AIDS will impact on households in a number of ways. The impact may be direct (as when a household loses an income earner or when a household has to pay more for medicines and funerals) or indirect (as when the household decides not to allow children to go to school so that they can look after their AIDS-sick parents).

This study made use of an HIV/AIDS lifecycle model (see Table 1) and supply and use table to determine the impact of HIV/AIDS on household consumption

expenditure. The paper includes the presentation of the methodology used in this study to derive the findings as well as the findings derived through such analyses, and an overview and discussion of the findings are provided.

THEORETICAL AND EMPIRICAL BACKGROUND

According to Schoub (1999), five clinical stages of HIV/AIDS, which span the continuum from the onset of HIV infection (sero-conversion) until death, have been identified. These stages are as follows:

- Acute HIV syndrome (stage 1): This syndrome occurs about one to four weeks after HIV infection and lasts for about two weeks. During this period, the infected person shows very little outward signs of infection.
- Silent stage (stage 2): During this period, lasting between five and 12 years (or even longer), the HIV-positive person is not clinically aware of being infected with HIV.
- Progressive generalised lymphadenopathy (PGL) stage (stage 3): Schoub (1999) indicates that during this stage of the HIV/AIDS process, which can last between one and six years, HIV-positive people become aware of swollen lymph glands, especially in the head and neck region.
- AIDS-related complex (ARC) stage (stage 4): Schoub (1999) indicates that this stage, which can last between one and six years, is a composite of a wide variety of symptoms and signs and precedes full-blown AIDS.
- Full-blown AIDS (stage 5): This stage is characterised by major life-threatening symptoms and opportunistic diseases that start appearing as the immune system of the HIV-positive person continues to deteriorate. This stage can last for a few months or up to five years and longer.

These stages of HIV/AIDS are very similar to the four stages developed by the World Health Organisation (WHO) (AVERT 2002). Stage 1 is much the same as the Primary HIV infection stage identified by the WHO, while stage 2 is similar to the asymptomatic phase identified by the WHO. Stage 3 is similar to the WHO's symptomatic infection phase, while stages 4 and 5 jointly form the AIDS phase identified by the WHO.

HIV-positive people in a specific country are at various stages of this lifecycle at any given moment, and the distribution of people in this lifecycle will fluctuate continuously as new people are infected, as people progress to advanced stages of the lifecycle and as HIV-positive people die (Van Dyk 2001).

Table 1, which shows the HIV/AIDS lifecycle, illustrates that during the early stages of an HIV/AIDS epidemic (years one to four), the majority of infected people are in the early stages of HIV/AIDS. Once this period has passed, most HIV-positive

people are in the progressive and AIDS-related complex stages. Later on in the epidemic, the majority of HIV-positive people have progressed to full-blown AIDS and the terminal stages of the disease.

Table 1: Theoretical representation of HIV/AIDS lifecycle

Year	Acute HIV syndrome	Silent stage	Progressive general	AIDS-related complex	AIDS	Terminal
1	High	Low	Low	Low	Low	Low
2	High	Medium	Low	Low	Low	Low
3	High	High	Medium	Low	Low	Low
4	High	High	Medium	Medium	Low	Low
5	Medium	High	High	Medium	Medium	Low
6	Medium	High	High	Medium	Medium	Medium
7	Medium	Medium	High	High	Medium	Medium
8	Medium	Medium	High	High	Medium	Medium
9	Medium	Medium	Medium	High	High	Medium
10	Low	Medium	Medium	High	High	Medium
11	Low	Low	Medium	Medium	High	High
12	Low	Low	Medium	Medium	High	High
13	Low	Low	Low	Medium	Medium	High
14	Low	Low	Low	Low	Medium	High

Progress from the acute stage to the terminal stage varies from person to person. The time that it takes from sero-conversion to death depends on factors such as individual lifestyle, diet, access to antiretroviral drugs and healthcare facilities, personal knowledge about HIV/AIDS, and the environment (physical, social, political, economic and technological) in which a person lives. On the basis of our knowledge of the dynamics of the epidemic in South Africa, personal characteristics of HIV-positive people in the country and the local availability of healthcare and medicines, it is possible to determine the distribution of HIV-positive people in the country (Table 2). This information is used in the study to determine the household impact of HIV/AIDS on South Africa as a whole.

It appears from Table 2 that during 2001, the majority of HIV-positive South Africans were in the more asymptomatic stages of the disease. This translates into about 70% of the 4.7 million HIV-positive people in South Africa being in the asymptomatic stages in 2001. This result was obtained by incorporating HIV

prevalence estimates from various sources (including Statistics South Africa, the Department of Health, the Actuarial Society of South Africa [ASSA] and UNAIDS) into a demographic model.

By means of a demographic model, the specific number of HIV-positive people in each of the different stages over the period 2001–2015 was determined (see Table 2). As time goes by, a growing percentage of HIV-positive South Africans will progress towards the symptomatic stages of HIV. By 2006, just less than half (48.5%) of the estimated 6.6 million HIV-positive South Africans are anticipated to be in the symptomatic stages of the disease, which translates into nearly 3.3 million people. By 2011, about 44.8% of an estimated 7 million HIV-positive people are expected to be in the symptomatic stages of the disease. In addition, with strong growth from 7.1% to 12.6% over the period 2001–2007 in the number of HIV-positive people in the terminal stage of the disease, a dramatic increase in the number of AIDS-related deaths can be expected. AIDS-related deaths are anticipated to increase from fewer than 300 000 in 2001 to about 600 000 by 2008. For further details of how the demographic modelling was done, Van Aardt (2002, 2004) should be consulted.

Table 2: Lifecycle model of HIV-positive people, expressed in percentages (2001–2011)

Year	Acute HIV syndrome	Silent stage	Progressive general	AIDS-related complex	AIDS	Terminal	Total
2001	5.9	35.3	28.6	12.9	10.3	7.1	100.0
2002	6.0	28.8	30.9	16.4	10.8	7.2	100.0
2003	6.1	24.6	30.0	18.9	13.0	7.5	100.0
2004	6.2	22.0	28.0	19.8	15.1	9.0	100.0
2005	6.4	20.6	26.0	19.8	16.6	10.7	100.0
2006	6.6	20.2	24.7	19.5	17.2	11.9	100.0
2007	7.0	20.4	23.8	19.0	17.4	12.5	100.0
2008	7.4	21.0	23.4	18.5	17.2	12.6	100.0
2009	7.8	21.7	23.3	18.0	16.8	12.4	100.0
2010	8.1	22.5	23.4	17.7	16.3	12.1	100.0
2011	8.5	23.2	23.5	17.4	15.8	11.6	100.0

It is apparent from the lifecycle table (Table 2) that, of the projected 6.7 million HIV-positive South Africans by 2006, about 1.8 million will be in the early stages of the HIV/AIDS lifecycle, about 3 million will be in the middle stage and about 1.9 million will be in the late stages (Table 3) (see Van Aardt 2002).

A significant increase in the number of HIV-positive people in the various stages of the HIV/AIDS lifecycle, particularly the later stages, is expected during the period 2002–2008. Table 3 reflects the estimated number of people in the early, middle and late stages of the HIV/AIDS lifecycle during this period.

Table 3: HIV-positive population by stage (2002–2008)

Year	Early stages	Middle stages	Later stages	Total
2002	1 810 120	2 458 040	931 840	5 200 000
2004	1 659 080	2 815 480	1 425 440	5 900 000
2006	1 795 600	2 955 370	1 949 030	6 700 000
2008	2 123 250	3 142 500	2 234 250	7 500 000

It appears from Table 3 that the number of South Africans in the middle stages of the HIV/AIDS lifecycle will grow by 28% from 2002–2008, while the strongest growth (140%) is expected in respect of the number of people in the late stages during the period 2002–2008 (see Van Aardt 2002).

THE HOUSEHOLD IMPACT OF HIV/AIDS AS DETERMINED BY VARIOUS RESEARCHERS

The research results of various authors with regard to the household consumption expenditure impact of HIV/AIDS in South Africa are discussed in this section to demonstrate the various household consumption impacts identified by various researchers as backdrop to the discussion of the results of this study. The first study that is discussed is that of Wharton Economic Forecast Associates (WEFA), in which household expenditure impacts were derived by means of an econometric model, while the second study referred to is that of the Bureau of Market Research, where the household expenditure impact of HIV/AIDS was determined by means of a survey. Household expenditure impact estimates derived through these different methologies are shown in order to determine the level of similarity of such different assessments.

The household expenditure impact of HIV/AIDS as determined by WEFA (now Global Insight) by means of an econometric model

WEFA (Quattek 2000) indicates that rising healthcare expenditure brought about by HIV/AIDS will put pressure on households. Furthermore, household expenditure will be constricted and reprioritised because of lower household income. Household savings will be tapped to make up for the shortfall between rising household expenditure (especially with regard to healthcare) and lower income.

WEFA determined the possible impact of HIV/AIDS on household expenditure by means of an econometric model. As indicated in the preceding discussion, household income and expenditure are affected because of household members becoming ill and dying as a result of AIDS-related diseases. WEFA (Quattek 2000) determined what the change in household demand would be on the basis of reduced income as a result of these factors. The expected reductions are shown in Table 4.

Table 4: Expected reduction in household demand

Year	Change in demand for durables	Change in demand for semidurables	Change in demand for nondurables	Change in demand for services	Change in savings
2000	-1.3	-1.2	-0.6	-1.1	-1.4
2005	-5.0	-4.2	-2.3	-5.1	-5.7
2010	-9.2	-8.0	-4.2	-9.3	-10.6
2015	-9.2	-8.0	-4.2	-9.3	-10.6

It appears from Table 4 that the largest reductions in household demand as a result of HIV/AIDS will be in the demand for durables and services. It is expected that HIV/AIDS will give rise to substantial increases in household expenditure on health-related as well as transport and funeral-related services (Quattek 2000). A significant decline in household savings is also expected.

Household impacts of HIV/AIDS identified by the Bureau of Market Research

During 2003, the Bureau of Market Research conducted a national income and expenditure survey from which a wealth of data about annual household expenditure in cash and in kind was obtained. Although this survey did not enquire specifically about the HIV status of household members, a question was asked regarding the financial expenses of the household for the preceding year. Where funeral expenses were incurred, it can be assumed that a member of the household, an extended family member or a close friend had died, thus justifying the assumption that such a household was 'affected by death' during the preceding year. Although it cannot in any way be assumed that a large percentage or even a significant number of such deaths were AIDS-related, a comparison of the expenditure patterns of 'households affected by death' with those of 'households not affected by death' provides some insight into the possible impacts that a death has on the expenditure patterns of a household.

Table 5 provides a breakdown of the average annual expenditure of 'households affected by death' and 'households not affected by death' with regard to selected main expenditure groups.

Table 5: Average annual expenditure in cash and in kind of households affected by death and households not affected by death

Main expenditure group	Households affected by death (Rand)	Households not affected by death (Rand)
Housing and electricity	7 738.77	9 479.42
Transport	5 694.10	5 481.94
Medical and dental	5 089.72	2 049.85
Recreation, entertainment and sport	369.44	538.72
Domestic workers	405.66	625.00
Holidays/weekends	177.69	324.63
Income tax	4 700.30	5 409.15
Savings	1 777.76	2 075.26
Insurance and funds	2 743.48	2 731.47
Cigarettes and tobacco	846.43	817.29
Communication	1 206.76	1 266.05

Source: Martins (2003)

According to Table 5 and to the Bureau of Market Research study by Martins (2003), in some instances there appear to be marked differences in average annual household expenditure between households affected by death and those not affected, namely:

- Households not affected by death spend an average R1 733.65 more per year on housing and electricity than households affected by death.
- The transport costs of households affected by death are R212.47 higher than those of nonaffected households.
- The average annual medical and dental expenditure of affected households is significantly higher than that of nonaffected households as a result of the high medical costs associated with treating a seriously, critically or terminally ill person until his/her death.
- It is interesting to note that there is a substantial difference (of about 83%) in the average holiday and weekend expenditure of affected and nonaffected households.
- There are also notable differences between affected and nonaffected households with regard to income tax and savings – unaffected households are able to pay 15% more income tax and save 17% more per annum than affected households. This phenomenon may be attributed to two factors: firstly, unaffected households have higher incomes since they have not lost an income earner during the preceding year, and secondly, they have lower medical and funeral expenses.

THE ECONOMETRIC MODEL USED TO DETERMINE THE ECONOMIC IMPACT OF HIV/AIDS ON HOUSEHOLD CONSUMPTION EXPENDITURE

A demographic model showing the demographic impact of HIV/AIDS was used as the basis for the econometric model employed in this study. Apart from the data on the demographic impact of HIV/AIDS derived from Van Aardt (2002), the econometric model used in this study also required information about the household income and expenditure impacts of HIV/AIDS. Such data were obtained from the research of Oni, Obi, Okorie, Thabede & Jordaan (2002), Booysen (2002), Booysen, Van Rensburg, Bachmann, O'Brien, & Steyn (2001), Booysen, Geldenhuys & Marinkov (2003), Freire (2002), the Bureau for Economic Research (BER) (2001), WEFA (see Quattek 2000) and ING-Barings (see Quattek 2000), as discussed in the theoretical and empirical overview of this study.

These demographic and household data were included in the household consumption component of the 1999 final supply and use (input–output) tables published by Statistics South Africa (2002) to model the household expenditure impact of HIV/AIDS. Impact forecasts were also conducted by using demographic impact data and HIV/AIDS lifecycle data – derived from Van Aardt (2002) – to model the impact of HIV/AIDS on household consumption expenditure for the period 1999–2011.

There is no consensus on the actual impact of HIV/AIDS on different categories of household consumption expenditure. The reason for this is twofold: few studies pertaining to the household economic impact of HIV/AIDS have been conducted to date, and such studies were conducted at only a few selected sites in a limited number of provinces, making it very difficult to apply these data to the whole of South Africa. However, Booysen et al. (2003) report that, although there is no consensus on the impact of HIV/AIDS on final consumption expenditure, efforts to determine such impacts have been made. The calculations of ING-Barings and the Bureau for Economic Research, as reported by Booysen et al. (2003), are shown in Table 6.

Although there are sizeable differences between the Bureau for Economic Research and ING-Barings figures (see Table 6) in the estimated impact of HIV/AIDS on household consumption expenditure in some instances, there are some similarities in the trends identified by the two institutions, namely:

- The most significant AIDS-related reductions in household consumption expenditure are in respect of durables, followed by semidurables and nondurables. Both institutions are of the opinion that AIDS-related final consumption expenditure on services will increase rather than decrease.
- Both institutions are of the opinion that the impact of HIV/AIDS on final consumption expenditure will increase consistently over the period 2002–2015.

Table 6: Estimated percentage changes in categories of final consumption expenditure between non-HIV/AIDS and HIV/AIDS scenarios

Year and source	Durables	Semi-durables	Nondurables	Services
2002: BER	-1.0	-0.7	0.3	1.5
2002: ING-Barings	-2.6	-2.5	-1.8	1.2
2005: BER	-3.1	-2.4	-0.1	3.0
2005: ING-Barings	-4.6	-4.6	-3.8	2.3
2010: BER	-5.7	-5.4	-1.6	6.3
2010: ING-Barings	-8.3	-8.9	-7.8	4.4
2015: BER	-7.9	-9.8	-6.3	3.5
2015: ING-Barings	-7.8	-9.3	-9.3	5.5

Source: Booysen et al. (2003)

On the basis of the data provided in Table 6 and the studies of Oni et al. (2002), Booysen (2002) and Freire (2002), own estimates of the impact of HIV/AIDS on household consumption expenditure were calculated using greatest likelihood methods. By means of such methods, estimates of greatest likelihood could be determined (see Van Aardt 2004). Table 7 compares the results of these calculations for the period 2001–2011 with the WEFA estimates shown in Table 4.

Table 7: Estimated percentage changes in categories of household consumption expenditure used in the econometric model of this study

Year	Own estimate: Durables	WEFA estimate: Durables	Own estimate: Semi-durables	WEFA estimate: Semi-durables	Own estimate: Non-durables	WEFA estimate: Non-durables	Own estimate: Services	WEFA estimate: Services
2001	-1.65	-2.00	-1.62	-1.90	-0.94	-1.30	0.82	1.00
2002	-2.47	-2.60	-2.44	-2.50	-1.54	-1.80	1.16	1.20
2003	-3.70	-3.30	-3.67	-3.20	-2.51	-2.40	1.66	1.50
2004	-4.32	-3.90	-4.32	-3.80	-3.05	-3.00	2.01	1.90
2005	-5.34	-4.60	-5.41	-4.60	-3.99	-3.80	2.42	2.30
2006	-5.96	-5.30	-6.31	-5.40	-4.85	-4.60	2.88	2.70
2007	-6.96	-6.10	-7.41	-6.30	-5.94	-5.60	3.31	3.10
2008	-7.57	-6.80	-8.36	-7.20	-6.75	-6.50	3.76	3.50
2009	-8.89	-8.00	-10.04	-8.90	-7.71	-7.30	4.05	3.60
2010	-8.90	-8.30	-9.84	-8.90	-8.27	-7.80	4.78	4.40
2011	-9.07	-8.20	-10.81	-8.00	-9.13	-8.10	4.27	4.60

Source: Own estimates and those of Quattek (2000)

For the purposes of this study, year-on-year impacts of HIV/AIDS on household consumption expenditure were determined by taking into account the findings of

other research studies (namely, the ING-Barings, Bureau for Economic Research and WEFA results shown in Table 8), the findings of the household-level HIV/AIDS impact studies reported in a previous section, as well as the findings regarding the demographic impact of HIV/AIDS reported by Van Aardt (2002). The results of these calculations are shown in Table 8.

The household and lifecycle weights shown in Table 9 are based on two variables that are discussed in detail by Van Aardt (2002), namely the number of households affected and infected by HIV/AIDS, and the number of people in households in South Africa who are in the later stages of HIV/AIDS. A low household and lifecycle weight was allocated in the situation where a smaller number of households are infected and affected by HIV/AIDS and where the majority of household members infected with HIV/AIDS are still in the earlier stages of the disease. A higher household and lifecycle weight was allocated in the situation where a very high percentage of households are infected and affected by HIV/AIDS and the majority of such household members infected with HIV are in the later stages of the disease.

The equation for calculating the year-on-year impacts of HIV/AIDS on household consumption expenditure encompassed different formulae for durable products, semidurables, nondurables and services. The equation used for these calculations had the following structure:

$C_e = (H_i, L_s, M_p, I_{dsnr})$

and

$CE_d = (H_i, L_s, M_p, I_d)$

$CE_s = (H_i, L_s, M_p, I_s)$

$CE_n = (H_i, L_s, M_p, I_n)$

$CE_r = (H_i, L_s, M_p, I_{r)}$

where:

C_e = Impact on household consumption expenditure

H_i = Percentage of households with HIV-positive family members

L_s = Percentage of HIV-positive members in the advanced stages of HIV/AIDS, based on the HIV/AIDS lifecycle (Van Aardt 2002)

M_p = Findings of microhousehold studies regarding HIV/AIDS impacts on household consumption expenditure

I_{dsnr} = Impact of HIV/AIDS on expenditure on durables, semidurables, nondurables and services as found in previous studies

CE_d = Impact on year-on-year household consumption expenditure on durables as a result of HIV/AIDS

CE_s = Impact on year-on-year household consumption expenditure on semidurables as a result of HIV/AIDS

Table 8: Estimated impacts of HIV/AIDS on household consumption expenditure expressed in percentages: ING-Barings, Bureau for Economic Research and WEFA

Year	ING-Barings Durables	BER Durables	WEFA Durables	ING-Barings Semi-durables	BER Semi-durables	WEFA Semi-durables	ING-Barings Non-durables	BER Non-durables	WEFA Non-durables	ING-Barings Services	BER Services	WEFA Services
2001			-2.00			-1.90			-1.30			1.00
2002	-2.60	-1.00	-2.60	-2.50	-0.70	-2.50	-1.80	0.30	-1.80	1.20	1.50	1.20
2003	-3.26	-1.70	-3.30	-3.20	-1.26	-3.20	-2.46	0.17	-2.40	1.56	2.00	1.50
2004	-3.92	-2.40	-3.90	-3.90	-1.82	-3.80	-3.12	0.04	-3.00	1.92	2.50	1.90
2005	-4.60	-3.10	-4.60	-4.60	-2.40	-4.60	-3.80	-0.10	-3.80	2.30	3.00	2.30
2006	-5.34	-3.62	-5.30	-5.46	-3.00	-5.40	-4.60	-0.40	-4.60	2.72	3.66	2.70
2007	-6.08	-4.14	-6.10	-6.32	-3.60	-6.30	-5.40	-0.70	-5.60	3.14	4.32	3.10
2008	-6.82	-4.66	-6.80	-7.18	-4.20	-7.20	-6.20	-1.00	-6.50	3.56	4.98	3.50
2009	-7.56	-5.18	-8.00	-8.04	-4.80	-8.90	-7.00	-1.30	-7.30	3.98	5.64	3.60
2010	-8.30	-5.70	-8.30	-8.90	-5.40	-8.90	-7.80	-1.60	-7.80	4.40	6.30	4.40
2011	-8.20	-6.14	-8.20	-8.98	-6.28	-9.00	-8.10	-2.54	-8.10	4.62	5.74	4.60
2012	-8.10	-6.58	-8.10	-9.06	-7.16	-9.10	-8.40	-3.48	-8.40	4.84	5.18	4.80
2013	-8.00	-7.02	-8.00	-9.14	-8.04	-9.10	-8.70	-4.42	-8.70	5.06	4.62	5.00
2014	-7.90	-7.46	-7.90	-9.22	-8.92	-9.20	-9.00	-5.36	-9.00	5.28	4.06	5.30
2015	-7.80	-7.90	-7.80	-9.30	-9.80	-9.30	-9.30	-6.30	-9.30	5.50	3.50	5.50

Source: Quattek (2000), Bureau for Economic Research (2001)

Table 9: Year-on-year impacts of HIV/AIDS on household consumption expenditure

Year	Household and lifecycle weight	Durables (annual % impact)	Semidurables (annual % impact)	Nondurables (annual % impact)	Services (annual % impact)
2001	1.000000	-1.63231	-1.43381	-0.82678	0.665765
2002	1.198970	-1.60031	-1.51002	-0.98144	0.677274
2003	1.326606	-1.44787	-1.46757	-1.07513	0.635818
2004	1.409772	-1.25814	-1.36990	-1.13118	0.573291
2005	1.477121	-1.38565	-1.53836	-1.34538	0.621859
2006	1.534093	-1.25305	-1.52251	-1.36045	0.628412
2007	1.583659	-1.53944	-1.93902	-1.55323	0.629924
2008	1.627636	-1.24216	-1.54813	-1.47982	0.743153
2009	1.627636	-1.08750	-1.59026	-1.48992	0.436857
2010	1.583659	-0.73273	-1.18808	-1.29547	0.367802
2011	1.534093	-0.56108	-1.08079	-1.27212	0.158735
2012	1.477121	-0.42705	-0.97727	-1.24167	0.068093
2013	1.409772	-0.32219	-0.87590	-1.20130	0.028954
2014	1.326606	-0.23966	-0.77403	-1.14593	0.012138
2015	1.215682	-0.17361	-0.66610	-1.06451	0.004956

CE_n = Impact on year-on-year household consumption expenditure on nondurables as a result of HIV/AIDS

CE_r = Impact on year-on-year household consumption expenditure on services as a result of HIV/AIDS

I_d = Impact of HIV/AIDS on household expenditure on durables

I_s = Impact of HIV/AIDS on household expenditure on semidurables

I_n = Impact of HIV/AIDS on household expenditure on nondurables

I_r = Impact of HIV/AIDS on household expenditure on services.

The data regarding consumption expenditure in South Africa required for the purposes of this report to calculate the impact of HIV/AIDS on household expenditure were derived from available Reserve Bank data (South African Reserve Bank 2003). Such data for the period 1995–2002, disaggregated by household consumption expenditure on durable goods (such as motor vehicles), semidurable goods (such as footwear), nondurable goods (such as foodstuffs) and services (such as medical services), are provided in Table 10. From an analysis of the data provided in the table, it appears that over the period 1995–2002, the total average growth rates were 8.1% in respect of durable goods, 6.8% in respect of semidurable goods, 10.3% in respect of nondurable goods and 11.6% in respect of services. These average growth percentages were used in Table 11 to extrapolate the 1995–2002 data to 2015 as the baseline (non-HIV/AIDS scenario) data for the purposes of this research project.

Table 10: Household consumption expenditure (in R'000) (1995–2002) (constant 1995 prices)

Year	Durables	Semidurables	Nondurables	Services	Total
1995	28 794	38 444	148 689	129 110	345 037
1996	29 621	37 919	154 209	137 233	358 982
1997	28 722	36 834	159 941	143 553	369 050
1998	26 732	36 624	162 280	148 840	374 476
1999	26 063	35 756	165 992	158 227	386 038
2000	28 022	36 553	171 846	165 606	402 027
2001	30 350	37 400	177 085	172 784	417 619
2002	30 727	38 127	184 374	173 915	427 144

Source: South African Reserve Bank (2003)

Table 11: Projected household consumption expenditure (in R'000), (1995–2015) (non-HIV/AIDS scenario at constant 1995 prices)

Year	Durables	Semidurables	Nondurables	Services	Total
1995	28 794	38 444	148 689	129 110	345 037
1996	29 621	37 919	154 209	137 233	358 982
1997	28 722	36 834	159 941	143 553	369 050
1998	26 732	36 624	162 280	148 840	374 476
1999	26 063	35 756	165 992	158 227	386 038
2000	28 022	36 553	171 846	165 606	402 027
2001	30 350	37 400	177 085	172 784	417 619
2002	30 727	38 127	184 374	173 915	427 144
2003	31 688	38 701	193 202	184 386	447 977
2004	33 867	40 711	209 816	202 595	486 989
2005	35 556	42 069	223 831	218 669	520 126
2006	37 330	43 473	238 783	236 018	555 604
2007	39 192	44 923	254 733	254 745	593 594
2008	41 147	46 423	271 749	274 957	634 276
2009	43 200	47 971	289 901	296 773	677 845
2010	45 354	49 572	309 266	320 319	724 512
2011	47 617	51 226	329 925	345 734	774 501
2012	49 992	52 935	351 963	373 165	828 055
2013	52 486	54 701	375 474	402 774	885 434
2014	55 103	56 526	400 555	434 730	946 915
2015	57 852	58 412	427 311	469 223	1 012 799

Source: Own estimates and South African Reserve Bank (2003)

The data reflected in Table 11 were used in the input–output table to determine the impact of HIV/AIDS on households. To derive data for the HIV/AIDS scenario, the projected household consumption expenditure data shown in Table 11 were adapted according to the expected year-on-year impacts of HIV/AIDS on household consumption expenditure as shown in Table 9. By using the said estimated year-on-year impacts of HIV/AIDS on household consumption expenditure, household expenditure data in an HIV/AIDS scenario for the period 1995–2015 were derived. These particulars are shown in Table 12.

Table 12: Projected household consumption expenditure (in R'000) (1995–2015) (HIV/AIDS scenario at constant 1995 prices)

Year	Durables	Semidurables	Nondurables	Services	Total
1995	28 794	38 444	148 689	129 110	345 037
1996	29 621	37 919	154 209	137 233	358 982
1997	28 722	36 834	159 941	143 553	369 050
1998	26 732	36 624	162 280	148 840	374 476
1999	26 063	35 756	165 992	158 227	386 038
2000	28 022	36 553	171 846	165 606	402 027
2001	30 350	37 400	177 085	172 784	417 619
2002	30 727	38 127	184 374	173 915	427 144
2003	31 230	38 133	191 126	185 558	446 046
2004	32 951	39 556	205 186	205 044	482 738
2005	34 102	40 229	215 881	222 673	512 884
2006	35 335	40 909	227 053	241 823	545 121
2007	36 494	41 402	238 263	262 615	578 775
2008	37 803	42 066	250 157	285 495	615 521
2009	39 219	42 706	262 549	309 443	653 917
2010	40 843	43 542	276 080	335 173	695 639
2011	42 613	44 441	290 325	362 315	739 694
2012	44 525	45 407	305 348	391 316	786 596
2013	46 577	46 443	321 234	422 481	836 735
2014	48 769	47 554	338 102	456 054	890 479
2015	51 101	48 752	356 138	492 262	948 253

Source: South African Reserve Bank (2003) and own estimates

RESULTS OF THE STUDY

The previous section dealt with the research methodology employed in the study. In this section the results regarding the household consumption impact of HIV/AIDS obtained through the econometric modelling exercise are presented and discussed.

The percentage decline in household consumption expenditure due to HIV/AIDS

The percentage decline in household consumption expenditure at current prices on food products, beverages and tobacco due to HIV/AIDS, as derived from the econometric model used for the purposes of this study, is shown in Table 13. As can be seen from this table, it is expected that there will be a steady percentage decline in household consumption expenditure growth as a result of HIV/AIDS over the period 2004–2012. On the basis of existing trends in household consumption expenditure, the highest significant percentage decline in expenditure on food products by 2012 is anticipated with regard to bakery products, followed by dairy products, grain mill products, meat products, oils and fat products, and beverages and tobacco products. The major reason for the severe impact of HIV/AIDS on these products is that the Living Standards Measure (LSM)[1] groups that are the predominant consumers of these products are also those most affected by HIV/AIDS. Furthermore, most of these products are essential foodstuffs, and consequently almost all the estimated 3 million households currently infected with or affected by HIV/AIDS consume large quantities thereof. As more people become HIV-positive and advance to the later stages of the HIV/AIDS lifecycle, the effect of HIV/AIDS on household consumption expenditure on these basic foodstuffs will also increase, as described by Van Aardt (2002, 2003).

Table 13: The percentage decline in household consumption expenditure on food products, beverages and tobacco as a result of HIV/AIDS

Product	% difference by 2004	% difference by 2008	% difference by 2012
Meat products	2.14	7.72	12.89
Fish products	1.57	5.64	9.40
Fruit and vegetable products	1.83	6.59	10.99
Oils and fat products	2.09	7.53	12.56
Dairy products	2.16	7.77	12.98
Grain mill products	2.15	7.75	12.92
Animal feeds	2.04	7.39	12.38
Bakery products	2.20	7.91	13.18
Sugar products	1.56	5.62	9.36
Confectionery products	2.04	7.35	12.27
Other food products	2.04	7.36	12.30
Beverages and tobacco products	2.09	7.53	12.56

The decline in household consumption expenditure on beverages and tobacco products as a result of HIV/AIDS is also shown in Table 13. It appears that household

consumption expenditure on beverages and tobacco did not decline significantly during 2004, but that a substantial decline is projected by 2012. It can be expected that as households become progressively more affected by HIV/AIDS in terms of loss of income and increased medical expenditures, many of them will cut back on nonessentials such as beverages and tobacco in order to survive financially.

The expected impact of HIV/AIDS on household consumption expenditure on textile, carpet and leather products for the period 2004–2012 can be seen in Table 14. It appears that the percentage decline as a result of HIV/AIDS was relatively limited in 2004, but will become more marked by 2012. Household consumption expenditure on made-up textile products was about 2.64% lower in 2004 than it would have been in a no-AIDS scenario. This household consumtion expenditure difference is anticipated to be 13.01% by 2012, while household consumption expenditure on carpets showed a decline of about 2.22% in 2004 compared to a no-AIDS scenario and is expected to reach about 10.52% by 2012.

A similar trend also holds for clothing, handbags and footwear, as shown in Table 14. It appears that the percentage decline in household consumption expenditure as a result of HIV/AIDS will be particularly significant with respect to clothing and footwear. As households feel the pinch of lower incomes and rising medical expenditure as a result of HIV/AIDS, it is expected that they will spend less on durable and semidurable (for instance, clothing and footwear) items in order to afford food, medicines, utilities and rent. By 2012, the percentage decline is anticipated to be about 13.03% in respect of wearing apparel and about 13.79% in respect of footwear.

Table 14: The percentage decline in household consumption expenditure on textiles, carpets and leather products as a result of HIV/AIDS

Product	% difference by 2004	% difference by 2008	% difference by 2012
Textile products	0.99	3.01	4.17
Made-up textile products	2.64	8.67	13.01
Carpets	2.22	7.16	10.52
Other textile products	1.44	4.46	6.31
Knitting mill products	2.33	7.52	11.09
Wearing apparel	2.65	8.68	13.03
Leather products	0.00	0.00	0.00
Handbags	2.42	7.98	12.00
Footwear	2.75	9.11	13.79

Because of the nonessential nature of most chemical, rubber and leather products, it is expected that, in cases where households are financially constrained as a result of HIV/AIDS-related factors, they will spend less on such products. It appears from

Table 15 that petroleum, soap and rubber tyre products, in particular, will experience a noticeable decline in household consumption expenditure by 2012. This finding is supported by the work of Booysen et al. (2003) who also investigated the expected impact of HIV/AIDS on different categories of consumption expenditure.

Table 15: The percentage decline in household consumption expenditure on chemical, plastic and rubber products as a result of HIV/AIDS

Product	% difference by 2004	% difference by 2008	% difference by 2012
Petroleum products	2.01	6.40	9.30
Basic chemical products	0.04	0.13	0.17
Fertilisers	0.10	0.30	0.41
Primary plastic products	0.00	0.00	0.00
Pesticides	1.24	3.83	5.38
Paints	0.00	0.00	0.00
Soap products	2.66	8.71	13.08
Other chemical products	1.22	3.78	5.34
Rubber tyres	2.28	7.40	10.97
Other rubber products	0.44	1.36	1.89
Plastic products	0.96	3.02	4.28

A trend similar to that observed with chemical, plastic and rubber products is evident in respect of hardware, electrical and other manufactured products shown in Table 16. It appears that households affected by HIV/AIDS will buy fewer of these items, using their limited finances to pay for medical services and medicines.

The expected decline in household consumption expenditure in respect of electrical products over the period 2004 to 2012 can be seen in Table 16. It appears that the most noticeable decline is anticipated in respect of household appliances. A reduction in the number of appliances in each household will have an impact on economic development, since the possession of such appliances is viewed as contributing to quality of life in terms of the LSM framework.

It appears from the work of Booysen et al. (2003), Quattek (2000) and Oni et al. (2002) that whereas HIV/AIDS is expected to result in a decline in household consumption expenditure on durables, semidurables and nondurables, it will give rise to increased household consumption expenditure on a wide range of services. The expected impact of HIV/AIDS on household consumption expenditure on a selection of services can be seen in Table 17. It appears from this table that there will be higher household consumption expenditure on a range of services under the HIV/AIDS scenario than under the non-HIV/AIDS scenario. Projections in Table 17 reveal that

Table 16: The percentage decline in household consumption expenditure on hardware, electrical and other manufactured products as a result of HIV/AIDS

Product	% difference by 2004	% difference by 2008	% difference by 2012
General hardware products	1.42	4.21	5.57
Household appliances	2.27	7.03	9.65
Office machinery	0.59	2.16	3.43
Electric motors	0.00	0.00	0.00
Electricity apparatus	0.30	1.05	1.61
Insulated wire and cable	0.00	0.00	0.00
Accumulators	1.84	5.53	7.39
Lighting equipment	1.94	5.90	7.96
Other electrical products	0.25	0.79	1.08
Radio and television products	0.62	2.22	3.44
Other manufacturing	1.65	4.87	6.42

by 2012, households will be spending about 3.4% more on transport, 4.37% more on insurance services, 4.8% more on health and social services and about 4.7% more on other services (for example, funeral services). The reasons for not projecting even more significant impacts on healthcare, insurance, transport and funeral expenditure are that household income and expenditure will be constrained as a result of HIV/AIDS, and people infected and affected by HIV/AIDS will increasingly rely on government health and other services, thereby greatly shifting the expenditure burden on to government.

Table 17: The percentage increase in household consumption expenditure on services as a result of HIV/AIDS

Product	% difference by 2004	% difference by 2008	% difference by 2012
Electricity	1.12	3.56	4.53
Water	1.21	3.83	4.86
Accommodation	0.85	2.73	3.51
Transport services	0.82	2.63	3.38
Communications	1.06	3.37	4.30
Insurance services	1.06	3.38	4.31
General government services	0.02	0.07	0.15
Health and social work	1.19	3.79	4.81
Other services/activities	1.17	3.72	4.73

OVERVIEW AND DISCUSSION OF RESULTS

The results of this study regarding the impact of HIV/AIDS on household consumption expenditure are supported for the most part by the findings of Oni et al. (2002), Booysen (2002) and Barnett & Whiteside (2002). According to Oni et al. (2002), households not affected by HIV/AIDS in 2001 were already spending substantially more on products annually than those affected by HIV/AIDS. Booysen (2002) found that affected households had to use significantly more of their savings than unaffected households to finance products.

Barnett & Whiteside (2002) identified similar trends in respect of the impact of HIV/AIDS on household consumption expenditure with regard to goods and showed that households in various African countries affected by HIV/AIDS spent more on medical and funeral services as the impact of HIV/AIDS increased in severity, while spending less on goods.

There is presently a high level of uncertainty regarding the level at which the future estimates presented in this paper can be influenced by factors such as changes in the epidemiological pattern of HIV/AIDS, changes in government policies and practices and the availability of vaccines and antiretrovirals for HIV/AIDS. The reason for this uncertainty is that although radical changes in government policies and practices may occur in the future, about 6 million people are already HIV-positive and nearly 2 million of them (see Table 3) are already in the later stages of HIV/AIDS, which sets the scene for severe household impacts of HIV/AIDS on household consumption expenditure regardless of such changes. Furthermore, many HIV-positive people are unable to generate incomes, and in the event that there is a sudden, meaningful roll-out of antiretrovirals, factors such as food poverty will still impact negatively upon their long-term survival.

However, several factors may have a significant impact on the medium- to long-term household impact of HIV/AIDS. Such factors include a higher success rate of HIV/AIDS awareness programmes as measured by behavioural change, broad-based public works and wealth transfer programmes that address the needs of the poor and vulnerable, and growing negative perceptions of local and international companies about the utility of a workforce heavily impacted by HIV/AIDS, leading to even higher levels of unemployment and poverty.

The findings presented in this article have various implications for businesses, namely:

- HIV/AIDS will have less of a macroeconomic impact but a far stronger impact on the incomes and expenditures of households infected or affected by HIV/AIDS. It is evident from an analysis of available HIV/AIDS risk data (see Harris & Van Aardt 2006) that not only poorer households are impacted by HIV/AIDS but also increasingly wealthier households.

- Businesses should critically investigate their product and service offerings, product diversification and product and service mixes to ensure that they mitigate against the impact of HIV/AIDS on their businesses.
- Businesses should conduct cost–benefit analyses regarding the possibility of strengthening their corporate citizenship regarding HIV/AIDS. Playing a far bigger role in community efforts to mitigate the demographic impacts of HIV/AIDS could be worthwhile.

NOTES

1 The LSM measure is an indicator of the living standards (wealth) of people in a society on a scale from LSM 1 (the poorest of the poor) to LSM 10 (the richest of the rich). Income is not taken into account for the LSM measure, but rather possessions such as house/s, car/s and televisions set/s. The more possessions a person has, the higher the LSM Group he/she falls into.

REFERENCES

Arndt, C. & Lewis, J.D. 2000. *The Macro-implications of HIV/AIDS in South Africa: a Preliminary Assessment*. Washington DC: The World Bank.

AVERT. 2002. The different stages of HIV infection. [Online] Available at: www.avert.org/hivstages.htm.

Barnett, T. & Whiteside, A. 2002. *Aids in the Twenty-first Century: Disease and Globalisation*. Houndmills: Palgrave.

Bell, C., Devarajan, S. & Gersbach, H. 2003. *The Long-run Economic Costs of AIDS: Theory and an Application to South Africa*. Washington DC: World Bank.

Bureau for Economic Research. 2001. *The Macro-economic Impact of HIV/AIDS in South Africa*. Stellenbosch: University of Stellenbosch.

Bureau of Market Research. 2003. National income and expenditure survey dataset. Pretoria: Unisa, Bureau of Market Research.

Bollinger, L. & Stover, J. 1999. *The Economic Impact of AIDS in South Africa*. Glastonbury: Futures Group.

Booysen, F., Van Rensburg, R., Bachmann, M., O'Brien, M. & Steyn, F. 2001. *The Socio-economic Impact of HIV/AIDS on Households in South Africa: Pilot Study in Welkom and QwaQwa, Free State Province*. Bloemfontein: University of the Free State.

Booysen, F. le R. 2002. 'Financial responses of households in the Free State Province to HIV/AIDS-related morbidity and mortality', *South African Journal of Economics* 70(7): 1193–1215.

Booysen, F. le R., Geldenhuys, J.P. & Marinkov, M. 2003. *The Impact of HIV/AIDS on the South African Economy: a Review of Current Evidence*. Bloemfontein: University of the Free State.

Department of Health. 2005. *National HIV and Syphilis Antenatal Sero-prevalence Survey in South Africa 2004*. Pretoria: DOH.

Freire, S. 2002. *Impact of HIV/AIDS on Saving Behaviour in South Africa*. Paris: Sorbonne.

Haacker, M. 2002. *The Economic Consequences of HIV/AIDS in Southern Africa*. Washington DC: International Monetary Fund.

Harris, M. & Van Aardt, C.J. 2006. 'Creating a revolutionary tool for South African employers by fusing HIV/AIDS risk segmentation and demographic modelling', Papers and presentations at the 27th Annual SAMRA Convention. Johannesburg: SAMRA.

Health Systems Trust. 2006. Health statistics: HIV prevalence (%). Total population. Available at: www.hist.org.za.

Human Sciences Research Council. 2005. *South African National HIV Prevalence, HIV Incidence, Behaviour and Communication Survey 2005*. Pretoria: HSRC Press.

Martins, J.H. 2003. Total household expenditure in South Africa by province, population group and product 2003. Report No 322. Pretoria: Unisa, Bureau of Market Research.

Oni, S.A., Obi, C.L., Okorie, A., Thabede, D. & Jordaan, A. 2002. 'The economic impact of HIV/AIDS on rural households in Limpopo Province', *South African Journal of Economics*, 70(7): 1173–1192.

Quattek, K. 2000. *The Economic Impact of AIDS in South Africa: a Dark Cloud on the Horizon*. Johannesburg: ING-Barings.

Schoub, B.D. 1999. *AIDS and HIV in Perspective: a Guide to Understanding the Virus and its Consequences*. Cambridge: Cambridge University Press.

South African Reserve Bank. 2003. *Quarterly Bulletin. June 2003*. Pretoria.

Statistics South Africa. 2002. Final supply and use tables, 1999: An input–output framework. Pretoria: Stats SA.

UNAIDS. 2002. *Fact Sheet 2002: Sub-Saharan Africa*. Geneva.

Van Aardt, C.J. 2002. The demographic impact of HIV/AIDS on provinces and living standards measure (LSM) groups in South Africa, 1996 to 2011. Report No 310. Pretoria: Unisa, Bureau of Market Research.

Van Aardt, C.J. 2003. The economic impact of HIV/AIDS. Report No. 325. Pretoria: Unisa, Bureau of Market Research.

Van Aardt, C.J. 2004. A projection of the South African population, 2001 to 2021. Report No. 330. Pretoria: Bureau of Market Research.

Van Dyk, A. 2001. *HIV/AIDS Care and Counselling: a Multidisciplinary Approach*. Cape Town: Pearson.

Service quality in the motor vehicle industry in South Africa: an exploratory study

A. Berndt & F. Herbst

ABSTRACT

The retail motor industry in South Africa is characterised by a number of franchise dealership networks representing all brands. These dealerships are responsible for the servicing of new vehicles while under warrantee or full maintenance agreements.

Service quality is an important aspect of the dealership network as it is the basis for their retention of the franchise. The importance is seen in the collection and use of customer satisfaction indices (CSIs).

The purpose of this paper is the investigation of the recognised dimensions of service quality within a dealership (or one franchise unit). The study is an exploratory one as no published research has been undertaken in this environment in South Africa. The research made use of a SERVQUAL instrument (in the form of a self-completion questionnaire) and a convenience sample.

The findings of the research indicate the identification of four factors that are regarded as important to customers in the vehicle service environment, namely employee/commitment quality, tangible quality, promise/delivery quality and communication/interaction quality.

The managerial implications of the findings indicate that the factors identified affect long-term customer satisfaction and hence require the attention of management, especially in the light of record motorcar sales in 2004 and 2005. This involves managing the actual maintenance of the vehicle within the service facility and the management of the service employees. Furthermore, there is the management of the service experience, which is necessary to generate loyalty and satisfaction benefits as well as long-term relationship development.

Key words: service quality, motor industry, vehicle servicing, South Africa, SERVQUAL

INTRODUCTION

The motor vehicle industry in South Africa experienced significant growth of 22% in 2004, while record monthly sales were recorded in 2005 (Furlonger 2005a). Many of

Prof. A. Berndt and Prof. F. Herbst are in the Department of Marketing Management, University of Johannesburg. Email: adb@rau.ac.za

these customers have not yet taken their new cars in for a service, so they are not aware of what the service experience would entail. The problems currently being reported to the Motor Industry Ombudsman all centre on the issue of service (Winfield 2005: 3). Furthermore, as the dealerships are franchise operations, service quality is of importance for keeping the franchise.

These issues have placed the question of service in the forefront of attention. To date, no published research has been conducted on the service quality delivered by motor dealers in South Africa, which is the purpose of this article.

THE NATURE OF THE MOTOR INDUSTRY IN SOUTH AFRICA

The motor vehicle industry in South Africa consists of local manufacturers such as Toyota, Volkswagen (VW) and Ford as well as vehicle importers such as Peugeot, Tata and Kia. The manufacturers and importers then sell brand franchises to various groups such as the Unitrans Group, McCarthy Retail, the Imperial Group and Consolidated Motor Holdings. This results in a group such as the Unitrans Group having different brands in the group, all managed as franchises. An example of such a franchise is Strijdom Park Volkswagen, where the research into customer service was undertaken.

In order to keep the franchise, the dealership is required to maintain standards pertaining to financial management and customer satisfaction index (CSI) scores above the national average, while maintaining the general franchise standards. These standards are checked by unannounced visits to the dealership. Should the standards not be met, warnings are issued, which may lead to the loss of the franchise (Swartz 2005).

The sales figures in the motor industry in 2000 were 354 000 units, while in 2005 it is estimated that sales would have been 570 000 units (Anon. 2005: 5). It is anticipated that this industry could have sales of 1 million units within five years. This anticipated sales figure includes all types of vehicles, both cars and commercial vehicles. The total industry vehicle exports in the current year are expected to be 145 000 units (Anon. 2005: 5).

Challenges in the motor industry

Various challenges can be identified in the motor industry that contribute to the service quality offered to customers, and the perceptions of customers with respect to service quality. These include Black Economic Empowerment (BEE), the Motor Industry Development Plan (MIDP), as well as other problems that affect the economy as a whole, such as labour and absenteeism issues (Anon. 2005: 5).

The challenge of BEE is seen in strategies that manufacturers have to consider regarding the profile of the owners of the various franchises. There is a specific strategy on the part of manufacturers to implement BEE at dealership level (Cokayne

2005). In the case of General Motors South Africa (GMSA), their BEE strategy includes the increase in the number of black-owned suppliers and dealers, and the sale of an ownership stake is not seen to be realistic (Anon. 2005: 5).

The MIDP continues to receive attention in the media as questions are raised regarding its sustainability and desirability (Furlonger 2005b). The MIDP is a government-sponsored initiative that results in the reduction of import tariffs and encourages exports (Furlonger 2004). Factors that have affected the MIDP include the strengthening of the Rand that has taken place as well as model changes in ranges manufactured by VW and BMW (Furlonger 2005b). This has resulted in a reduction in the attractiveness of exports and the resulting trade deficit of R110 billion over the ten years of the MIDP programme (Furlonger 2005b).

Labour issues (including absenteeism) affect not only the motor industry, but also the economy as a whole. The levels of absenteeism at organisations are regarded as 'high', although specific figures are not supplied. Reasons for the high rates of absenteeism include labour legislation in South Africa (Anon. 2005: 16). Other labour issues affecting the motor industry include the HIV/AIDS position in South Africa. The HIV/AIDS infection rates of 18.4% of 20–64 year olds has an effect on the workforce of all organisations (Pile 2005).

A further factor affecting the service quality offered in the dealership relates to the issue of training that is required to provide excellent service to the customer. It is acknowledged that the servicing process is regarded by customers as 'exceedingly stressful'. In addition to this, the expectations of customers in South Africa with regard to service have increased, which can be ascribed to the choice of models offered to the customer as well as the price that customers have to pay for the vehicle (Anon. 2005: 22).

Compounding the problem for the motor industry is the question of the attraction and development of suitably trained and qualified technical staff (Furlonger 2005a). One of the specific problems is the shortage of technical staff, which results in the poaching of technical staff from one franchise to another.

THE NATURE OF SERVICE QUALITY IN THE MOTOR VEHICLE INDUSTRY

Service quality has been defined as the degree and direction between customer service expectations and perceptions (Parasuraman, Zeithaml & Berry 1985, in Newman 2001: 128). Perceived service quality is defined as the evaluation of the service across the episodes when compared to some explicit or implicit standard (Storbacka, Strandvik & Grönroos 1994: 25). The importance of service quality is seen in the effect that it has on customer satisfaction (Zeithaml & Bitner 2003: 85) and loyalty (Heskett 2002: 355), which in turn affects relationship marketing (Zeithaml & Bitner 2003: 158).

The dimensions of service quality

A number of different dimensions to service quality have been identified in the literature (Parasuraman, Zeithaml & Berry 1988: 31). These dimensions are reliability, assurance, tangibles, responsiveness and empathy. While other dimensions have been identified, these dimensions have been identified consistently as being relevant in service industries (Kang & James 2004; Grönroos 2001; Asubonteng, McCleary & Swan 1996).

Measuring service quality

The literature identifies various ways of measuring service quality. One of the methods of measuring service quality is using the SERVQUAL instrument developed by Parasuraman et al. (1988). This method has become 'institutionalised' in its use, despite various criticisms of the methodology (Buttle 1996: 25). In the light of the criticisms regarding the SERVQUAL methodology, other methods have been developed that can also be used, namely TOPSIS and the service quality loss method (Mukherjee & Nath 2005: 174).

RESEARCH CONDUCTED INTO SERVICE QUALITY – A PILOT PROJECT

Quantitative research

Quantitative research is defined as the techniques involving relatively large numbers of respondents who provide 'descriptive information' that cannot easily be projected on the population as a whole (Dillon, Madden & Firtle 1994: 741). The survey that was conducted was undertaken at a VW dealership in Gauteng within one of the motor groups, namely the Unitrans Group.

The questionnaire

There were three components to the questionnaire used in this study.

- **Section A:** This was a biographical section in order to obtain information about the consumer of the service. The questions posed related to the respondents' age, gender and income, as well as the period in which they had been associated with the specific VW dealership. The categories used for age, income and occupation were based on those used by Statistics South Africa in the national census. Where appropriate, categories were combined for greater clarity.
- **Section B:** This was a customer service evaluation using the SERVQUAL formulation. The SERVQUAL instrument is regarded as a relationship survey as it attempts to determine the nature of the customer's relationship with the

organisation (Zeithaml & Bitner 2003: 135). The SERVQUAL instrument was developed by Parasuraman et al. (1988) to determine the service attributes, and SERVQUAL groups them into the five dimensions of service quality.

A 5-point scale was used in this SERVQUAL instrument. The statements used are based on research conducted by Bouman & Van der Wiele (1992: 10–11) adapted to the motor industry. Each of the statements was linked to the five dimensions of service quality, but they were expanded in order to provide a more complete picture for service improvements in the motor industry; hence, there are more than the original 22 statements (Bouman & Van der Wiele 1992: 7).

This questionnaire was used as a basis for the final design due to the established validity with respect to the formulation of the dimensions. Cronbach's alpha exceeded the minimum value of 0.7 in this study (Bouman & Van der Wiele 1992: 12). In the pre-testing of the questionnaire, four statements that were not deemed appropriate were removed, while the phrasing of two statements was refined.

- **Section C**: These questions attempted to determine the overall perceptions that the customer had regarding the relationship quality with the VW dealership, but do not form the focus of this paper.

Sampling

The population for this research project was the customers of the specific VW motor dealer, namely Strijdom Park Volkswagen. Convenience sampling is defined as a non-probability sample, which is used as it makes the data easy to collect (McDaniel & Gates 1998: G-2). The research was conducted among those who took their vehicle to the dealership for a service during the identified period. When they arrived to collect their vehicle, they were asked to complete the self-completion questionnaire.

Data collection

There are various ways in which data can be collected, including postal, electronic and personal collection methods (McDaniel & Gates 1998: 165). In this study, it was decided to use self-completion, with the presence of a field worker to answer any questions that might arise. The data were collected over an 18-day period on the premises of the dealership.

FINDINGS

A total of 225 questionnaires were submitted for statistical analysis. Subsequent to this, 44 questionnaires were eliminated, as they were insufficiently complete for use in the statistical analysis. (If more than six components of Section B were not completed, the questionnaire was eliminated. The questionnaire thus had to be 95% complete.)

Respondent profile

The profile of the respondents was as follows:

- In the age group from 30–39 (36.5%) or 20–29 (34.3%) years
- Largely male (65.7%), which is understandable, taking the nature of the product into account
- Exceedingly affluent, with 71.2% of the respondents having a gross monthly income exceeding R11 000 per month
- Well educated, with 76.9% of the respondents indicating that they had some form of post-school qualification
- Professional, as the majority of the respondents (50.4%) described their occupation as that of a professional, while 18.8% indicated that their occupation was that of senior officials/managers
- Servicing one vehicle at the dealership (75.1%), while 15.5% have two or more vehicles serviced at the dealership.

The length of time of servicing at the dealership

The respondents taking part in the survey indicated the duration of service history with the dealership (shown in Table 1).

Table 1: Length of time of servicing at the dealership

Duration	Number of respondents	%
Less than 1 year	74	40.9%
1–2 years	34	18.8%
2–5 years	55	30.4%
5–10 years	14	7.7%
Longer than 10 years	2	1.1%

The number of new customers making use of the dealership can be seen from the figures in Table 1. A high number of respondents had serviced for less than two years (59.7%), while a further 30.4% of the respondents indicated that they had been servicing at the dealership for a period of between two and five years.

Factor analysis

The responses were analysed to determine which factors customers identified as being of importance in vehicle servicing. Note that due to excessive kurtosis and skewness, two items were eliminated from further analysis, thus producing results for 42 values.

Factor analysis varimax rotation accounted for 88.713% of the variation in the perception section of the data set among the 42 statements in Section B. They are reflected in Table 2 (refer also to Appendix 1).

Table 2: Factor analysis based on perception

Items	SERVQUAL DIMENSION**	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
1	Empathy	0.602						
2	Empathy	0.635						
3	Responsiveness	0.737						
4	Assurance	0.737						
5	Assurance	0.724						
6	Reliability	0.780						
7	Assurance	0.609						
8	Assurance	0.599						
9	Empathy	0.657						
10	Empathy	0.654						
11	Assurance	0.445						
12	Reliability	0.427						
13	Responsiveness						0.521	
14	Reliability	0.511						
15	Responsiveness	0.459						
16	Reliability	0.408						
17	Tangibles			0.552				
18	Empathy	0.436						
19	Tangibles		0.480					
20	Tangibles			0.383				
21	Tangibles		0.646					
24*	Empathy					0.505		
25	Responsiveness		0.296					
26	Tangibles			0.505				
27	Tangibles		0.688					
28	Empathy			0.617				
29	Tangibles		0.684					
30	Tangibles		0.585					
31	Tangibles		0.676					
32	Tangibles		0.661					
33	Responsiveness			0.510				
34	Assurance				0.727			
35	Tangibles				0.551			
36	Empathy			0.666				

Items	SERVQUAL DIMENSION**	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
37	Assurance			0.591				
38	Reliability			0.620				
39	Assurance				0.735			
40	Reliability				0.463			
41	Reliability				0.419			
42	Empathy		0.377					
43	Tangibles		0.555					
44	Assurance			0.455				

* Note: Items 22 and 23 were eliminated because of excessive skewness and kurtosis.
** These refer to the original SERVQUAL dimensions identified by Parasuraman et al. (1988).

From this analysis, four factors were identified:

- Factor 1 was identified as employee/commitment quality.
- Factor 2 was identified as tangible quality.
- Factor 3 was identified as promise/delivery quality.
- Factor 4 was identified as communication/interaction quality.

The *employee/commitment quality factor* refers to the way in which the organisation and its employees treat the customer in the way in which the service is presented in the service situation. Specific issues that are included in this concept are the interest that is shown in the customer and his/her satisfaction, the behaviour of the employees as well as the commitment to the actual service that is being provided. This factor accounts for 37.88% of the responses received.

The *tangible quality factor* refers to the physical appearance of the items required to provide the service, including employee appearance, facility appearance as well as signage, infrastructure, décor and brochures (Zeithaml & Bitner 2003: 321).

The *promise/delivery quality factor* refers to the extent to which the dealership delivers on the service that the customer would like to receive. This dimension includes the explanation of warranties, the risk of the repairs as well as the supply of a written estimate regarding the cost of the service.

The *communication/interaction quality factor* refers to the way in which the organisation and the customer make contact regarding the repairs carried out and the quality of this contact (communication).

Reliability of the results

Reliability refers to the degree to which an instrument (or measure) is free from random error, and is thus able to provide consistent data (McDaniel & Gates 1998: 231). For the purposes of determining reliability, Cronbach's alpha, which determines

how well a set of items measures a specific construct (Anon. [S.a.]), was used. While 1 indicates perfect reliability, the value of 0.7 is regarded as the lower level of acceptability (Hair, Anderson, Tatham & Black 1998: 118).

Table 3: Cronbach's alpha of the factors identified

Cronbach's alpha	Perception
Factor 1: Employee/commitment quality	0.939
Factor 2: Tangible quality factor	0.877
Factor 3: Promise/delivery quality factor	0.853
Factor 4: Communication/interaction quality factor	0.813

This is consistent with the reliability scores that have been found in other SERVQUAL studies (Badri, Abdullah & Al-Madani 2005: 827; Anthony, Anthony & Ghosh 2004: 381; Asubonteng et al. 1996: 66), indicating the relative reliability of these results.

MANAGERIAL IMPLICATIONS

The managerial implications of these findings are seen in the identification and management of these factors in the service situation. Employee/commitment quality as a factor is regarded as exceedingly important by the respondents, and hence requires special attention on the part of the management of the dealership. This involves managing the actual maintenance of the vehicle and the management of the service employees.

There is a further issue regarding the management of the service experience. As seen from the respondent profile, the number of customers who have developed a long relationship with the dealership are few (8.8%). In order to generate loyalty and satisfaction benefits from service delivery, it is necessary to ensure that long-term relationships develop with customers, which require actions from the management of the dealership. The benefit of the franchise dealership system is that this is under the control of the Service Manager, meaning that he can make any changes that are deemed necessary in service quality development.

LIMITATIONS OF THE RESEARCH

Research into specific interactions with the organisation may experience a bias with respect to the client who does not evaluate the range of experiences with the organisation, but rather one major interaction. It is thus not always possible to determine whether the respondent is responding to the total range of experiences with

the organisation or to one specific incident with the organisation. Furthermore, this may be complicated by the fact that satisfaction occurs at both episodic and relationship levels, and it may not always be clear to which the respondent is referring (Liljander & Strandvik 1994: 267). In addition, the responses of current customers tend towards satisfaction (Liljander & Strandvik 1994: 268).

As this is a pilot study, the findings cannot be generalised to other dealerships in the area.

FUTURE RESEARCH

Future research could be conducted among other dealerships in the specific area and between the various franchisees that operate in the area. Furthermore, research could be conducted into the service quality offered by other franchises as well as the effect that this would have on the service quality between the dealership and the customer.

The impact of employees on the service quality is a research direction that also requires attention. The reasoning is that according to the profit service chain, the employees have an impact on the service quality delivered (Payne, Holt & Frow 2001: 793).

Research also needs to be conducted into the effect that the length of the relationship with the dealership has on perceptions of service quality in the dealership.

CONCLUSION

The issue of service quality has an impact not only on the customers and their current perceptions, but also on the loyalty of the customer and the customer retention experienced. This is particularly important in the motor vehicle industry, where service can act as the differentiator. The identification of these factors indicates that while the SERVQUAL instrument is appropriate in the motor industry, other possible factors can be identified.

REFERENCES

Anon. [S.a.]. What does Cronbach's Alpha mean? [Online] Available at: www.ats.ucla.edu/stat/spss/faq/alpha.html. Accessed: 26 September 2005.

Anon. 2005. General Motors South Africa: a *Financial Mail* Special Survey, *Financial Mail*, 28 October.

Anthony, J., Anthony, F.J. & Ghosh, S. 2004. 'Evaluating service quality in a UK hotel chain: a case study', *International Journal of Contemporary Hospitality Management*, 16(6): 380–384.

Asubonteng, P., McCleary, K.J. & Swan, J.E. 1996. 'SERVQUAL revisited: a critical review of service quality', *Journal of Services Marketing*, 10(6): 62–81.

Badri, M.A, Abdullah, M. & Al-Madani, A. 2005. 'Information technology centre service assessment and application of SERVQUAL', *International Journal of Quality and Reliability Measurement*, 22(8): 827–848.

Bouman, M. & Van der Wiele, T. 1992. 'Measuring service quality in the car service industry: building and testing an instrument', *International Journal of Service Industry Management*, 3(4): 4–16.

Buttle, F. 1996. 'SERVQUAL: review, critique, research agenda', *European Journal of Marketing*, 30(1): 8–32.

Cokayne, R. 2005. 'BMW's first black dealership accelerates', *Business Report,* 4 July. [Online] Available at: www.busrep.co.za/index.php?/fSectionId=563&fArticleId=2610619.

Dillon, W.R., Madden, T.J. & Firtle, N.H. 1994. *Marketing Research in a Marketing Environment,* 3rd edition. Illinois: Irwin.

Furlonger, D. 2004. 'Buckle up: Bumps ahead', *Financial Mail*, 21 May. [Online] Available at: http://secure.financialmail.co.za/04/0521/business/abus.htm. Accessed: 7 November 2005.

Furlonger, D. 2005a. 'Huge car sales mean long wait', *Financial Mail*, 15 April. [Online] Available at: http://secure.financialmail.co.za/05/0415/business/cbus.html. Accessed: 20 October 2005.

Furlonger, D. 2005b. 'Warning light flashes', *Financial Mail,* 2 September. [Online] Available at: http://secure.financialmail.co.za/05/0902/business/abus.htm. Accessed: 7 November 2005.

Grönroos, C. 2001. 'The perceived service quality concept – a mistake?', *Managing Service Quality*, 11(3): 150–152.

Hair, J.F., Anderson, R.E., Tatham, T.L. & Black, W.C. 1998: *Multivariate Data Analysis*, 5th edition. Upper Saddle River, NJ: Prentice-Hall.

Heskett, J.L. 2002. 'Beyond customer loyalty', *Measuring Service Quality*, 12(6): 355–357.

Kang, G-D, & James, J. 2004. 'Service quality dimensions: an examination of Grönroos's service quality model', *Managing Service Quality*, 14(4): 266–277.

Liljander, V. & Strandvik, T. 1994. 'The nature of relationship quality', *Proceedings: Quality Management in Services IV,* European Institute for Advanced Studies in Management (EIASM), Paris, May 1994.

McDaniel, C. & Gates, R. 1998. *Marketing Research Essentials,* 2nd edition. Ohio: South-Western College Publishing.

Mukherjee, A. & Nath, P. 2005. 'An empirical assessment of comparative approaches to service quality measurement', *Journal of Services Marketing* 19(3): 174–184.

Newman, K. 2001. 'Interrogating SERVQUAL: a critical assessment service quality measurement in a high street retail bank', *International Journal of Bank Marketing*, 19(3), 126–139.

Parasuraman, A., Zeithaml, V.A. & Berry, L.L. 1988. 'SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality', *Journal of Retailing*, 64(1): 12–40.

Payne, A., Holt, S. & Frow, P. 2001. 'Relationship value management: exploring the integration of employee, customer and shareholder value and enterprise performance models', *Journal of Marketing Management*, 17: 785–817.

Pile, J. 2005. 'Banking on a disability grant', *Financial Mail*, 24 June. [Online] Available at: http://secure.financialmail.co.za/05/0624/currents/bcurrent.htm. Accessed: 8 November 2005.

Storbacka, K., Strandvik, T. & Grönroos, C. 1994. 'Managing customer relationships for profit: the dynamics of relationship quality', *International Journal of Service Industry Management,* 5(5): 21–38.

Swartz, E. 2005. Verbal communication with the author. Johannesburg. (Notes in possession of author).

Winfield, M. 2005. 'Poor service tops list of complaints', *The Star*, 11 August.

Zeithaml, V.A. & Bitner, M.J. 2003. *Services' Marketing: Integrating Customer Focus across the Firm,* international edition. Boston, MA: McGraw-Hill.

APPENDIX 1: FACTORS IDENTIFIED

Detailed items	SERVQUAL dimension	Factor 1	Factor 2	Factor 3	Factor 4
The dealership focuses on solving customer complaints (6)	Reliability	0.780			
The dealership has competent employees (4)	Assurance	0.737			
Complaints are dealt with quickly (3)	Responsiveness	0.737			
The service personnel are reliable (5)	Responsiveness	0.724			
The interest of the customer is considered (9)	Empathy	0.657			
Requests/instructions of customers are honoured (10)	Empathy	0.654			
Customers are attended to in a friendly way (2)	Empathy	0.635			
The dealership gives good advice regarding maintenance (7)	Assurance	0.609			
Service personnel provide personal attention (1)	Empathy	0.602			
Employees are courteous (8)	Assurance	0.599			
Repairs are error free (14)	Reliability	0.511			
The level of satisfaction of customers is monitored (18)	Empathy	0.463			
The dealership explains why repairs are carried out (15)	Responsiveness	0.459			
The customer is informed what service level can be expected (11)	Assurance	0.445			
The dealership's grounds are neat (27)	Tangibles		0.688		
The infrastructure is neat (29)	Tangibles		0.684		
Cars are clean after servicing (31)	Tangibles		0.676		
There are enough parking places (32)	Tangibles		0.661		
There is clear signage at the dealership (21)	Tangibles		0.646		
There is sufficient space to sit in the waiting area (30)	Tangibles		0.585		
Invoices are neat and distinctive (43)	Tangibles		0.555		
Employees are well groomed (19)	Tangibles		0.480		
Operating hours are convenient (42)	Empathy		0.377		
The telephone is answered promptly (25)	Responsiveness		0.296		

Detailed items	SERVQUAL dimension	Factor 1	Factor 2	Factor 3	Factor 4
Customers are able to deliver their vehicles outside normal operating hours (36)	Empathy			0.666	
A written estimate is supplied (38)	Reliability			0.620	
Customers are known by name (28)	Empathy			0.617	
The risk of repairs is communicated (37)	Assurance			0.591	
A replacement vehicle is available (17)	Tangibles			0.552	
The service adviser delivers the car (33)	Responsiveness			0.510	
Warrantee agreements are clearly explained (26)	Tangibles			0.505	
Customers know which mechanic repaired their car (44)	Assurance			0.455	
Promotional material is attractive (20)	Tangibles			0.383	
Customers are contacted when additional repairs have to be done (39)	Assurance				0.735
Customers are contacted when the repair becomes more expensive than estimated (34)	Assurance				0.727
A checklist of repairs carried out is provided (35)	Tangibles				0.551
The vehicle is ready at the promised time (40)	Reliability				0.463
The invoice is explained to the customer (41)	Reliability				0.419

Diversification in property investment performance reporting in South Africa: theory versus practice

V.G. Ghyoot

ABSTRACT

The study seeks to determine the extent to which diversification as promoted in the real estate investment literature is implemented in practice. To achieve this objective, the study sets out the theory underlying diversification in portfolio management and the available strategies and approaches employed in the direct and listed property industries. The theory is encapsulated in a conceptual model that is used to analyse the extent of diversification as reported by investors in direct and listed property in South Africa. The sample for direct property investment is the annual statistical publication by Investment Property Databank (IPD), which covers about 70% of institutional real estate investment in South Africa. The universe for listed property reporting is the annual reports of all Property Unit Trusts (PUTs) and Property Loan Stock companies (PLSs) in South Africa. (These are similar to Real Estate Investment Trusts [REITS] in the USA and Listed Property Trusts in Australia.) Content analysis is used to compare reported diversification with the theoretical requirements.

Key words: real estate portfolios, diversification logic, diversification disadvantages, diversification categories, diversification in practice, focused investment strategy

INTRODUCTION

Real estate portfolio diversification is a popular research topic, as perusal of the portfolio management literature will confirm. Diversification within real estate portfolios was also the fifth most pressing research issue identified in a survey in 2000 of real estate investment research priorities among pension funds in the USA and the fourth most pressing in Australia (Worzala, Gilliand & Gordon 2002; Newell, Acheompong & Worzala 2002).

Over the years, several real estate diversification categories have been identified and shown to be effective. Yet, examination of an Investment Property Databank

Prof. V.G. Ghyoot is in the Department of Business Management, University of South Africa.
E-mail: ghyoovg@unisa.ac.za

(IPD) South Africa annual report or of the annual reports of South African Property Unit Trusts (PUTs) or Property Loan Stock companies (PLS)[1] will reveal that diversification is usually reported in two main categories: geographic region and property type. These are the traditional dimensions for diversifying direct real estate portfolios. The obvious questions are: Why only these two diversification categories? Are these the only practical categories available to portfolio managers, or is implementation lagging behind theory?

As long ago as 1986, Hartzell, Heckman & Miles (1986: 252) stated that "current industry practice represents little more than naïve diversification. Due to the low levels of systematic risk, current distinctions by region and property type make little sense in a world of costly diversification." They recommended that more diversification categories be used in real estate portfolio management.

RESEARCH OBJECTIVE

The research objective is to determine the extent to which diversification as promoted in the real estate investment literature is implemented in practice. To achieve this objective, the study firstly sets out the theoretical motivations for and against diversification in real estate investment. Next, a list of diversification categories is drawn up and compared with the categories actually used in South African direct and listed real estate investment portfolios. Finally, the study seeks to explain any discrepancies found between theory and practice.

LITERATURE REVIEW

Reasons for diversification

Diversification is one of three ways in which a real estate portfolio manager can add value, the other two being market allocation and property selection (Lieblich 1995: 1049). Portfolio investment performance is usually judged in terms of risk-adjusted return (that is, in terms of yield and risk). The objective of diversification is to reduce the risk portion, without sacrificing yield; or to increase the yield portion, without increasing risk. An investor can eliminate some risk by combining assets into a portfolio, and such reduction is viewed as being free or low cost (Clauretie & Sirmans 1996: 510, 515).

The benefits of diversification may be understood as follows: risk has two components, namely a market (systematic) portion and a business or specific (unsystematic) portion. Systematic risk affects all assets in the market, each to a greater or lesser extent. It is usually regarded as being undiversifiable. Unsystematic risk affects specific assets, asset classes and submarkets. It is also referred to as diversifiable risk and comprises that portion of risk associated with random causes

that can be eliminated through diversification. By reducing unsystematic risk, diversification increases risk-adjusted return and causes a beneficial shift of the efficient frontier of potential portfolios (Gitman 2003: 234; Pyhrr, Cooper, Wofford, Kaplin & Lapides 1989: 631; Ross, Westerfield, Jordan & Firer 1996: 315, 318; Wellner & Thomas 2004).

Within a real estate portfolio, diversification is especially important. Real estate assets are not homogeneous and therefore do not move as a group. As a result, real estate portfolios have proportionally lower systematic risk and higher unsystematic risk than shares (stocks). This makes diversification more effective (Miles & McCue 1984: 66; Hartzell et al. 1986: 246).

How is diversification implemented? At the simplest level, merely spreading an investment over many assets will remove some unsystematic risk. For real estate, average portfolio variance, a common risk measure, decreases rapidly as the number of properties increases from one to ten. For shares (stocks), between 12 and 18 stocks will achieve 90% of potential diversification benefits (Grissom, Kuhle & Walther 1996: 201; Reilly & Brown 2000: 292). Simply adding more assets will thus diversify a portfolio. This is referred to as naïve diversification. But will it be optimal? The father of diversification, Harry Markowitz (1952), distinguished between naïve diversification (safety in numbers) and efficient diversification. Beyond the initial gains from naïve diversification, no further benefit is derived simply by adding additional assets (Francis 1993: 595). The portfolio manager has to use a more efficient approach. Any characteristic of an asset that affects its yield or risk (which together define the efficient frontier of a portfolio of assets) could thus be a source of diversification. For real estate, the bundle of rights concept is important, because it provides a first indication of how diversification may be achieved. Many real rights may be created in immovable property. These include rights below ground, surface rights, air rights and the right to crops and water. Every real right may be further subdivided – for example, a lease may be short, long, a sandwich or a leaseback. Mortgages have several investable dimensions, for example, the conventional primary market, mortgages with profit participation and the secondary market in various forms. Ownership formats include direct ownership, indirect ownership, syndications and even the abstraction of derivatives.

Yet, professional real estate portfolio managers usually report on their diversification efforts mainly in terms of geographic location and property type. This narrow approach has been questioned before (Ori 1995: 27). More diversification dimensions have also been shown to be superior (Hartzell et al. 1986).

One problem is that the mean return of the combined assets has to be considered. If this is not the same as, or higher than, before diversification, an investor may prefer not to diversify further. Brueggeman & Fisher (2005: 616) explain that if the percentage reduction in risk does not exceed the percentage reduction in mean return, the portfolio is not an improvement and should not be invested in. Assets with

appropriate negative correlations may also not be available. Even diversifying across industries has no benefit over and above naïve diversification if correlation between asset yields is not favourable. Markets must be broken down into homogeneous segments, with high internal correlation and low correlation with other segments (Francis 1993: 598–599; Lieblich 1995: 1021). Once market segments (diversification categories) have been identified, the portfolio manager also has to understand what drives performance in each segment.

Arguments against diversification

Several practitioners have warned that diversification is not easy to implement in real estate investment. Hartzell et al. (1986: 246) warn that within-real-estate diversification is relatively expensive. The reasons are simply the lack of people with the necessary expertise and the high cost of information. Fisher & Liang (2000: 35) point out that in practice, there are costs associated with any diversification strategy. These include the cost of developing, implementing and monitoring diversification schemes and the opportunity costs resulting from market conditions and reduced flexibility of capital deployment. They point out that a four-property-type by four-region strategy has 16 possibilities that have to be monitored, if all combinations are pursued. Costs are high and implementation could be difficult. Rebalancing incurs high transaction and advisory fees. It is more affordable to target categories separately and ignore the cross terms between them. This implies that four property types by four regions yields only eight possibilities, not 16. In practice, reduced diversification benefits may be offset by lower management costs and less restriction on investment strategy. Hudson-Wilson (2000: 212) raises the matter of availability of investment candidates: "How many truly differentiable investment choices are there available ...?" The supply of stock and capital markets should also be considered when contemplating diversification. Furthermore, a specific property type may not be viable in a selected region.

Miles & McCue (1984: 67) demonstrate that sophisticated diversification produces limited benefits compared with the associated cost and suggest using naïve diversification only. Rubens, Louton & Yobaccio (1998) warn that "investors should be wary of marginal increases in performance promised from the inclusion of alternative investment media". Because additional assets may not provide real diversification gains, they develop a formal method for measuring the significance of such gains. In their study, Cheng & Liang (2000) question whether it is worthwhile to move beyond naïve diversification, asking: Does the diversification benefit exceed the cost of portfolio rebalancing? They test only geography and property type, however, which are the historic (and perhaps less efficient) diversification measures. The authors claim that naïve equal weighted diversification often yields results that are as good as sophisticated methods, because of the uncertainty of future markets.

Goetzmann & Wachter (1995: 272), quoting previous studies, support this reservation. They warn that if the mean returns used are suspect, elaborate calculations may actually *undiversify* the portfolio. In real estate markets, mean returns are difficult to estimate. Fisher & Liang (2000) also advocate simplicity.

Fisher & Liang (2000: 38) continue to argue the case against sophisticated diversification: "There are tangible, sometimes significant, costs for a REIT [Real Estate Investment Trust] to diversify its investments across properties or across regions. Far more importantly, it is simply easier for investors to diversify their REIT investments than for CEOs to diversify their portfolios of real assets. And investors and analysts sometimes demand pure plays in property sectors."

Is focus an answer? Specialisation per property type allows concentration of resources. John Rainier, CEO of Alan Gray Property Trust, is of the opinion that focused funds are more predictable than diversified funds, a fact that helps investors (Anon 2001). This is confirmed by Hedander (2005: 87), who states that the potential cost of management of a diversified firm is higher than for a focused firm. The preceding discussion has shown that focused funds could be easier to manage, and this is supported by the existence of several focused funds in South Africa. Focus could increase unsystematic risk, but in real estate this is also the reason why excess profits are possible. King & Young (1994: 6) conclude that Modern Portfolio Theory, on which the diversification principle is based, does not apply in real estate markets. It is better for an investor to apply underwriting principles (fundamental analysis) and investigate each individual investment thoroughly. Such an approach would also favour a focused investment strategy. A portfolio manager who understands the asset class and the specific submarket would be unwise not to capitalise on market inefficiencies, even at some increased risk. The inherent nature of unsystematic risk in the real estate business, the lumpiness of investments, the predictability of asset-specific risks and the profitability of carrying such risk also distinguish the property industry from other industries.

In his review of recent empirical research, Hedander (2005: 88, 89) records that diversified property investment firms are, on average, less profitable than more focused firms. Within the listed property fund industry in the United States, Capozza & Seguin (1999) also found that a focus on property type is associated with an increase in wealth. Similar results were obtained in a Swedish study (Cronqvist, Högfeldt & Nilsson 2001), who found that diversified real estate companies have lower values than focused companies. According to Hedander (2005: 85, 107), Australian Listed Property Trusts shifted from a diversified to a more focused strategy between 1987 and 2004. He explains that trusts became aware of a negative market attitude towards diversification and accordingly increased their focus. This follows a general trend among corporations in other industries since the late 1970s to reduce diversification. The spate of mergers in the South African listed property sector has, however, reduced focus, contrary to the international trend.

CONCEPTUAL MODEL OF DIVERSIFICATION CATEGORIES IN REAL ESTATE

A conceptual model of potential diversification categories, based on suggestions in the portfolio management literature, is given in Table 1.[2] The model is an expansion of the three-dimensional framework suggested by Pagliari (1990: 16–19), as modified by Wellner & Thomas (2004). A pictorial representation would have five axes (ignoring the first category: number of properties).

Table 1: Conceptual model of real estate diversification categories

Asset quantity	**Asset type**	**Investment and finance**
a. Number of properties	f. Property type	l. Investment vehicle/ownership
	g. Industry type	m. Financing structure
		n. Investment period
Location	**Property characteristics**	**Tenants**
b. Geographical region	h. Life cycle	o. Tenant mix
c. Urban vs suburban	i. Property size/value	p. Lease expiry profiles
d. International	j. Building quality	q. Lease types
e. Economic region	k. Building type	

Every potential diversification category, cross-referenced to Table 1, will be explained briefly. In the process, characteristics that are unique to real estate investment funds will be highlighted. Note that the categories used are not mutually exclusive but simply reflect ways of thinking. Diversification categories include (the alphabetical key refers to Table 1):

(a) The effect of increasing number of assets has been discussed. Gyourko & Nelling (1996) found that for Real Estate Investment Trusts (or REITs, which are similar to Property Unit Trusts in South Africa) even *systematic* risk may be reduced by increasing the number of properties in a portfolio. However, simply increasing the number of assets in a portfolio, without selection criteria, is referred to as naïve diversification. The term 'naïve' is also applied to simple geographic and property type diversification.

(b) A pure geographical dimension, based on political boundaries, adds little to a diversification strategy. This has been shown by Hartzell et al. (1986) and by Goetzmann & Wachter (1995). Strangely, this strategy is very popular.

(c) Urban versus suburban diversification categories were first suggested by Seiler,

Webb & Myer (1999: 175). In South Africa, this diversification dimension has been successfully explored over the past decade, with investors that focus on either one of the two dimensions. One listed property trust, CBD Property Fund (now defunct), focused exclusively on central business district property. Land use density is an alternative and analogous categorisation to urban versus suburban.

(d) Stevenson (2000, 2003) found that international diversification does not provide a statistically significant benefit. Wilson & Zurbruegg (2003) agree that the value of international diversification is uncertain. Other studies differ. Gordon, Canter & Webb (1998) found that securitised real estate benefits from international diversification. Eicholtz (1996) declares that international diversification is more effective for real estate than for equity or bonds, because real estate is affected more by local influences. This is confirmed by Hoesli, Lekander & Witkiewicz (2004), who found that the optimal allocation to international real estate differs between countries. This implies that economic factors play an important role in diversification. Reilly & Brown (2000: 293) state that international diversification reduces even *systematic* risk (market risk), because the underlying variables in different countries are not correlated. Wellner & Thomas (2004: 3) confirm that *systematic* risk is affected by international diversification, because very few factors affect all real estate assets worldwide, for example the economic activity of the world market. These findings suggest that international diversification should not be attempted on a geographical-political basis, but rather on the basis of economically different markets.

(e) Several authors propose economic diversification as an effective strategy. The motivation is that economic forces are not necessarily defined on a geographical basis, but may cross political boundaries. Mueller (1993: 61) explains that "local economic conditions are a major factor affecting real property performance, while purely geographic groupings only vaguely identify economic characteristics". He advocates dropping geography altogether in favour of economic diversification. Similar views have been expressed by Grissom, Hartzell & Lui (1987), Hartzell, Shulman & Wurtzebach (1987), Malizia & Simons (1991), Mueller & Ziering (1992), Ziering & Hess (1995) and Nelson & Nelson (2003). Goetzmann & Wachter (1995: 299) warn that even investing in two widely separated cities such as New York and Los Angeles will not necessarily have a significant effect on diversification. The cities could be economic twins. In their study, the portfolio properties chosen on an economically differing basis were sometimes located in close geographic proximity, which makes management simpler. Shulman & Hopkins (1988) propose a formal methodology for economic diversification of real estate portfolios. Social criteria could, of course, form part of economic diversification. An example would be the support of small but profitable industries in order to benefit specific population groups.

(f) The reasoning underlying diversification according to property type is that

different industries use different types of property. Property type diversification therefore automatically includes some industry diversification (Del Casino 1995: 928). For example, offices are affected by the services market and the office requirements of industrial processes. Retail property is affected by population growth and personal wealth, while industrial property is affected by economic growth in various sectors. Fisher & Liang (2000) found that property type is a better diversifier than region. This confirms that, for real estate diversification, economics is more important than geography. The simplest effective means of diversification thus appears to be by property type.

(g) Mueller & Ziering (1992: 385) suggest that different industries have unique effects on the various property types. Industry type should therefore also be considered over and above property type. This category underscores the fact that all diversification is essentially economic in nature.

(h) The real estate lifecycle of development, investment, refurbishment and divestment suggests diversification strategies such as land banking, development, holding, upgrading or trading stock.

(i) Property size may be measured in terms of floor area, lease income or value. Seiler et al. (1999: 175) mention several studies that report a positive relationship between property size and yield. Roulac (1976) explains that the market for large properties is small and that investors are compensated by higher yields. Miles & Esty (1982) agree, but also point to economies of scale with large properties. Wellner & Thomas (2004: 15) postulate that larger properties simply behave differently in the economic cycle from smaller properties. The study by Ziering & McIntosh (1999) found that while larger properties have higher yields, they also exhibit greater volatility. The additional return is therefore earned at the expense of additional risk.

(j) Although proposed by Pagliari (1990), building quality and age does not immediately appear to be a fruitful category for diversification. There is ample evidence that lower grade or older properties have lower yields than prime properties (see, for example, SAPIX/IPD 2002). However, the category should not be ignored. The Premium property loan stock company invested in better quality properties in secondary locations and refurbished them primarily for capital gain (Premium Properties Limited 1999). Urban Ocean, a South African property development company, specialises in refurbishing central city properties that have passed their prime. The strategy has proved so profitable that large institutions have started emulating them.

(k) Building type (for example, high-rise, low-rise, multiple units or park developments) implies different submarkets and therefore attracts different tenants and incurs differing operating expenses and risk.

(l) Investment vehicles (ownership format) include direct investment, syndications and joint ventures, leases, listed property trusts, shares in conventional property companies and even derivatives, all with differing risk-return characteristics.
(m) Financing structure covers many possibilities and includes full equity, conventional, participating or convertible mortgages, tax-structured financing schemes and sale/leaseback.
(n) Investment period includes considerations such as whether to invest in the short or the long term and how markets are timed. For example, the major short-term land value increase on township proclamation is the specialist terrain of land developers. Conversely, land banking is a long-term strategy. The Premium property loan stock company was established for a ten-year life span, after which it plans to liquidate all assets (Premium Properties Limited 1999: 5).
(o) Tenant mix implies aspects such as whether tenants are national chains or locals, their creditworthiness, whether a property is tenanted by single or multiple tenants and what the tenants' businesses are. All these matters have a direct effect on risk.
(p) Lease expiry profiles and lease terms are traditional measures of the riskiness of an investment property and should be actively managed.
(q) Lease type includes matters such as base rent and escalations, turnover rent, gross or net rental basis, head leases and leasebacks. All have a direct effect on risk and yield.

Having identified potential real estate diversification categories, it is possible to determine which of these categories are reported on by large investors in South Africa.

EMPIRICAL INVESTIGATION

Methodology

In order to gain insight into direct property investment in South Africa, the Investment Property Databank (IPD) annual reports for 1999, 2002 and 2004 were used. IPD South Africa tracks more than 2 200 properties with a total value of about R75 billion. This represents about 70% of institutional real estate investment in South Africa, including both direct and listed property. According to IPD South Africa, the all property yield for 2004 was 23.4% (IPD 2005). Their 1999 and 2002 detailed investors reports (SAPIX/IPD 1999, 2002) and the UK summary report (IPD 2004) were used.[3]

The entire universe of South African listed property funds was analysed, using the annual reports of the 21 trusts and loan stock companies that were active during the second half of 2004 (De Vynck 2004: 31). In order to illustrate focused strategies, three

delisted funds that no longer exist as separate entities were also added to the analysis (CBD, Pioneer and Rand Leases). In total, 24 funds were analysed, comprising 18 PLSs and six PUTs.[4]

The listed property industry is dynamic. Over the past five years, liquidity has increased by 400% (Emira Property Fund 2003). Over the same period, the industry has grown by 25% per annum, and 18 property unit trusts (PUTs) and property loan stock companies (PLSs) have been absorbed by larger listed entities (Capital Property Fund 2003: 3). In May 2004, the market capitalisation of PUTs was R8 billion and that of PLSs R17 billion (Kloppers 2004). The total of R25 billion represents a quadrupling of market capitalisation of the industry over the last decade (see APUT 2004: 17). Nine of the 18 (50%) PLSs listed by De Vynck (2004: 31) did not yet have a three-year performance history. Keeping track of this fast-moving industry is difficult and, accordingly, some of the entities analysed in this study may since have merged into larger funds. This is of no consequence, because overall practices are being studied, not individual entities. All the listed funds also form part of the IPD database (Anon 2004), but their annual reports provide more specific detail than the IPD report.

Content analysis was used, and the diversification categories mentioned in annual reports were compared with the conceptual model of real estate diversification categories given in Table 1.

Findings

The results of the comparison of published information with the conceptual model of real estate portfolio diversification categories are given in Table 2. Some comments about the comparison are appropriate. Diversification categories are listed vertically down the left of the table. Across the top, the IPD and 24 South African funds are listed. The type of fund is identified, along with an indication of its size at the time the annual report was prepared. Where a report specifically mentions a diversification category, this is indicated by a shaded block. Where a diversification category is not mentioned, but is implied by the context, it is marked with a lightly shaded block. The diversification category 'number of properties' is marked for all funds, because a number of assets are found in all portfolios. Geographical region and property type are mentioned in all reports, and are shaded accordingly. Because most listed funds have a policy of only investing in prime property and use similar investment vehicles, the categories of 'building quality' and 'investment vehicle' are lightly shaded for all funds, indicating their implied use. When these categories are mentioned specifically, the blocks are shaded accordingly.

IPD reports (see first column of Table 2) are limited to the information made available by subscribers and appear to make the best categorisation of what is available. For example, the United Kingdom report (IPD 2004) is more comprehensive than the South African reports and distinguishes Central London

and the West End under the retail sector, and distribution warehouses under the industrial sector. Apart from geographical and property-type categories, the South African report (SAPIX/IPD 1999) uses type of building as classification, including CBD offices, high-rise offices, low-rise offices and office parks. Industrial building categories include hi-tech, high grade, low grade, warehousing and mini units. Age and size of buildings are also used as categorisation variables.

The listed property annual reports all mention general risk factors, such as local economic trends and environmental circumstances, or vacancies. These factors affect the efficient frontiers of portfolios, but cannot be employed directly in diversification and are therefore not indicated in Table 2. The fact that most reports include lease expiry profiles indicates that the authors understand the nature of property investment risks. Newell, Chiu & Juchau (1998: 4) found that the majority of Listed Property Trust investors in Australia specifically wanted information about the identity of tenants and the length of leases.

DISCUSSION OF FINDINGS

An inspection of Table 2 reveals that very few diversification strategies are employed by all the funds and the IPD participants. The majority of the strategies are seldom used. Most annual reports refer to or imply geographic region, property type, property size, tenant mix and lease expiry profile. Only two funds, SA Retail Properties and CBD Property Fund, refer specifically to economic diversification – arguably the most important diversification category.

The empirical investigation revealed that, although individual investors may analyse diversification in detail, this is not reflected in annual reports. Diversification categories that are mentioned often or are implied in annual reports are the following (the alphabetical key refers to Table 1):

(a) Number of properties (implicit in portfolios)
(b) Geographical region (standard category)
(c) Economic region (implied in some cases)
(d) Property type (standard category)
(e) Property size (often mentioned)
(f) Building quality (implied)
(g) Investment vehicle (mostly implied)
(h) Tenant mix (sometimes mentioned or implied)
(i) Lease expiry profiles (often mentioned).

Of all the annual reports examined, that of the now defunct Rand Leases provides the most detail about diversification. Other comprehensive reports are those by

Table 2: Comparison of published information on diversification with the conceptual model of real estate portfolio diversification categories

Name	IPD (1999, 2002)	Acucap (2003)	Alan Gray (2003)	ApexHI (2003)	Atlas (2003)	Capital (2003)	Emira prospec-tus (2003)	Growth-point (2003)	Hyprop (2003)	Ifour (2003)	Mart-prop (2003)	Met-board (2003)	Octodec (2003)
Type of fund	Database	PLS	PUT	PLS	PLS	PUT	PUT	PLS	PLS	PLS	PUT	PLS	PLS
Approximate asset value	R9.6 bill	R945 mill	R2.8 bill	R2.1 bill	R871 mill	R470 mill	R1.6 bill	R5.3 bill	R2.8 bill	R772 mill	R1.2 bill	R1.1 bill	R694 mill
DIVERSIFICATION CATEGORY Asset quantity													
a. Number of properties	Implicit in all portfolios of assets												
Location													
b. Geographical region					Focused								Focused
c. Urban vs suburban													
d. International													
e. Economic region													
Asset type													
f. Property type									Focused		Focused	Focused	Focused
g. Industry type													
Property characteristics													
h. Lifecycle													
i. Property size													
j. Building quality													
k. Building type													
Investment and finance													
l. Investment vehicle													
m. Financing structure													
n. Investment period													
Tenants													
o. Tenant mix													
p. Lease expiry profiles													
q. Lease types													

KEY = Mentioned specifically in report

= Implied in report

Name	Pang-bourne (2004)	Paramount (2003)	Premium (2003)	Prima (2003)	Redefine (2003)	Resilient (2003)	SA Retail (2003)	Spearhead (2003)	Sycom (2003)	CBD (2001)	Pioneer (2001)	Rand Leases (2001)
Type of fund	PLS	PLS	PLS	PUT	PLS	PLS	PLS	PLS	PUT	PUT	PUT	PLS
Approximate asset value	R1.8 bill	R935 mill	R588 bill	R470 bill	R2.5 mill	R984 mill	R905 bill	R435 mill	R1.59 bill	R281 mill	R383 bill	R257 bill
DIVERSIFICATION CATEGORY										Defunct	Defunct	Defunct
Asset quantity												
a. Number of properties										Implicit in all portfolios of assets		
Location												
b. Geographical region			Focused						Focused	Focused	Focused	Focused
c. Urban vs suburban												
d. International												
e. Economic region												
Asset type												
f. Property type				Focused		Focused	Focused		Focused		Focused	Focused
g. Industry type							Focused					
Property characteristics												
h. Lifecycle												
i. Property size				Focused			Focused					
j. Building quality												
k. Building type												
Investment and finance												
l. Investment vehicle												
m. Financing structure												
n. Investment period												
Tenants												
o. Tenant mix												
p. Lease expiry profiles												
q. Lease types												

KEY = Mentioned specifically in report

= Implied in report

– Three funds that have delisted –

Martprop Property Fund, Pangbourne Properties Limited, SA Retail Properties and the now defunct CBD Property Fund. The least detail about diversification is provided by Acucap Properties Limited.

Other authors have also commented on unsatisfactory reporting: Van Rooyen (2005: 5) describes the reporting by most South African listed property funds as being of a poor standard, while Hoddinott (2006) questions the reporting format used by South African listed property funds.

The popularity of geographical region and property type as diversification categories is explained by Viezer (2000: 75) as follows: In real estate, unsystematic risk can arise from lease terms, operating and financial leverage, tenant mix, location, business cycle and demographic, employment and income trends. Location and property type are used as proxies to represent these influences.

International investment does not yet feature in South African funds, as there have historically been restrictions on such investment. These restrictions were relaxed in 2003 under the Collective Schemes Investment Control Act.

Some of the listed funds are specialists and focus on particular sectors. This is indicated, where relevant, in Table 2. For example, CBD Property Fund (now defunct) concentrated on central business district properties; Octodec Investments Limited focuses on property in Pretoria, and Premium Properties Limited is a capital growth fund that invests for a limited time period and lists its assets at initial cost price. Such focused funds will not score highly on an assessment of diversification.

In defence of limited detail about diversification, it is important to consider the investment strategy of Alan Gray Property Trust, the largest PUT in South Africa. The strategy is described by their CEO, John Rainier, as 'flexible'. He explains that Alan Gray is not restricted by diversification or specialisation constraints. They simply invest where profits may be made (Anon 2001).

CONCLUSION

After evaluating diversification in property investment practice, the question that arises is: Why is diversification not pursued as enthusiastically in practice as in the research literature? It appears that there is a theory–practice gap about diversification in property investment.

Academic researchers should learn from practitioners and focus more research attention on the categories that are implementable and cost-effective. There is a great need for such research. The finding of Worzala et al. (2002) has been mentioned, namely that diversification within real estate portfolios was judged the fifth most important real estate research issue in the USA in 2000. Of interest is that a further six out of the total of 12 issues identified have a direct bearing on diversification. These issues are microeconomic factors, demographic changes, technological factors, investment strategies, macroeconomic factors and international investment.

Practitioners should also adapt. It is surprising that geographical region is still used as a diversification category in the IPD reports and annual reports by listed property trusts and companies. Several authors have stressed the critical importance of economic diversification, and Mueller (1993: 61) recommended more than a decade ago that geography should be dropped altogether as a diversification category. In South Africa, there is an enormous difference between, for example, the economic drivers of the Eastern Cape, Mpumalanga and Gauteng. Such economic differences should be accentuated in annual reports, and geographical identifiers should become secondary.

ACKNOWLEDGEMENT

The author would like to thank two anonymous reviewers for their constructive comments.

ENDNOTES

1 Property Unit Trusts (PUT) and Property Loan Stock companies (PLSs) are similar to REITS in the USA and Listed Property Trusts in Australia. PUTs are trusts that distribute all net earnings to unit holders. PLSs are shares in companies, and income is distributed in the form of variable interest and a small dividend. PUTs have income tax and capital gains tax advantages over PLSs.

2 Table 1 is based on the work of Anon (2003); Cheng & Liang (2000); De Witt (1997); Del Casino (1995); Dohrmann (1995: 87); Eicholtz & Hoesli (1995); Grissom, Kuhle Hartzell, Heckman & Miles (1986: 230, 240, 250); Lee & Devaney (2004); Lieblich (1995: 1021); Louargand (1992); Mueller & Laposa (1995); Mueller & Ziering (1992); Newell & Keng (2003); Pagliari (1990); Peng, Hudson-Wilson & Capps (2000:137); Pyhrr, Cooper, Wofford, Kaplin, & Lapides (1989: 131, 266); Seiler, Webb & Myer (1999); Viezer (2000: 75); Wellner & Thomas (2004: 2); Ziering & Hess (1995); and Ziering & McIntosh (1999).

3 Detailed IPD information is available to subscribers only. Despite requests for current information, the most recent detail available for this study was for 1999 and 2002. This was supplemented by more recent summarised information that is publicly available.

4 Of the 18 PLSs listed by De Vynck (2004: 31), two had been suspended (Fairvest and Shops for Africa) and one was engaged in management and ownership takeovers (A-Prop), leaving 15 active funds. Three delisted funds that no longer exist as separate entities were added in order to illustrate focused strategies. De Vynck also lists five active PUTs. To these, the new fund Emira was added, and the analysis was based on its prospectus.

REFERENCES

Acucap Properties Limited. 2003. *Acucap Annual Report 2003*. Cape Town: Acucap Properties Limited.

Alan Gray Property Trust. 2003. *Annual Report 2003*. Johannesburg: Broll Property Group.

Anon. 2001. Diversification vs focused portfolios, *SAPOA Online 6/13/2001*. [Online] Available at: www.sapoa.org.za.

Anon. 2003. International diversification in property securities by Japanese investors, 1973–2001, research paper. [Online] Available at: www.econ.mq.edu.au/cjes/research/Weston_2003_3.

Anon. 2004. 'Property unit trusts provide balance to investment portfolios', *SAPOA Online 5/27/2004*. [Online] Available at: www.sapoa.org.za.

ApexHi Properties. 2004. *Annual Report 2003*. Johannesburg: ApexHi Properties Limited.

APUT. 2004. PUT things in perspective – it's all about yields. Association of Property Unit Trusts (APUT) annual investor presentation, April 2004.

Atlas Properties Limited. 2003. *Annual Report 2003*. Cape Town: Atlas Management Services.

Brueggeman, W.B. & Fisher, J.D. 2005. *Real Estate Finance and Investments,* 12th edition. Boston, MA: McGraw-Hill.

Capital Property Fund. 2003. *Annual Report 2003*. Rosebank: JHI Real Estate.

Capozza, D. & Seguin, P. 1999. 'Focus, transparency and value: the REIT evidence', Real Estate Economics, 27(4): 54–62, quoted in Hedander (2005: 90).

CBD Property Fund. 2001. *Annual Report 2001*. Johannesburg: Sage Property Trust Managers.

Cheng, P. & Liang, Y. 2000. 'Optimal diversification: is it really worthwhile?', *Journal of Real Estate Portfolio Management,* 6(1): 7–16.

Clauretie, T.M. & Sirmans, G.S. 1996. *Real Estate Finance: Theory and Practice,* 2nd edition. Upper Saddle River, NJ: Prentice Hall.

Cronqvist, H., Högfeldt, P. & Nilsson, M. 2001. 'Why agency costs explain diversification discounts', Real Estate Economics, 29(1): 85–126, quoted in Hedander (2005: 90).

De Witt, P.M. 1997. 'Real estate diversification benefits', *Journal of Real Estate Research,* 14(1/2): 117–135.

Del Casino, J.D. 1995. 'Portfolio diversification considerations', In Pagliari, J.L. (ed.), *The Handbook of Real Estate Portfolio Management*. Chicago, IL: Irwin.

De Vynck, D. (ed.) 2004. *Rode's Report on the SA Property Industry,* (3). Cape Town: Rode and Associates.

Dohrmann, G. 1995. 'The evolution of institutional investment in real estate', In Pagliari, J.L. (ed.), *The Handbook of Real Estate Portfolio Management*. Chicago, IL: Irwin.

Eicholtz, P.M.A. 1996. 'Does international diversification work better for real estate than for stocks and bonds?', *Financial Analysts Journal,* (January–February): 56–62, quoted in Stevenson (2003: 1).

Eicholtz, P.M.A. & Hoesli, M. 1995. 'Real estate portfolio diversification by property type and region', *Journal of Property Finance,* 6(3): 39–59.

Emira Property Fund. 2003. Offer document and pre-listing statement. Sandton: Emira.

Fisher, J.D. & Liang, Y. 2000. 'Is sector diversification more important than regional diversification?', *Real Estate Finance*, Fall: 35–40.

Francis, J.C. 1993. *Management of Investments,* 3rd edition. New York: McGraw-Hill.

Gitman, L.J. 2003. *Principles of Managerial Finance,* 10th edition. Reading, MA: Addison-Wesley.

Goetzmann, W.N. & Wachter, S.M. 1995. 'Clustering methods for real estate portfolios', *Real Estate Economics,* 23(3): 271–310.

Gordon, J.N., Canter, T.A. & Webb, J.R. 1998. 'The effect of international real estate securities on portfolio diversification', *Journal of Real Estate Portfolio Management,* 4(2): 83–91.

Grissom, T.V. Hartzell, D.J. & Lui, C.K. 1987. 'An approach to industrial real estate market segmentation and valuation using the arbitrage pricing paradigm', *Journal of the American Real Estate and Urban Economics Association,* 15(3): 199–219.

Grissom, T.V., Kuhle, J.L. & Walther, C.H. 1996. 'Diversification works in real estate, too', In Major, J.B. & Pan, F. (eds), *Contemporary Real Estate Finance*. Upper Saddle River, NJ: Prentice Hall.

Growthpoint. 2004. *Annual Report 2003*. Sandton: Growthpoint Properties.

Gyourko, J. & Nelling, E. 1996. 'Systematic risk and diversification in the equity REIT market', *Real Estate Economics,* 24(4): 493–515.

Hartzell, D., Heckman, J. & Miles, M. 1986. 'Diversification categories in investment real estate', *AREUEA Journal,* 14(2): 230–254.

Hartzell, D.J., Shulman, D.G. & Wurtzebach, C.H. 1987. 'Refining the analysis of regional diversification for income-producing real estate', *Journal of Real Estate Research,* 2(2: Winter): 850–95.

Hedander, J. 2005. 'Focus, liquidity and firm value', *Pacific Rim Property Research Journal,* 11(1): 84–112.

Hoddinott, J. 2006. A comparison of the annual reporting formats of South African property unit trusts with Australian listed property trusts and real estate investment trusts in the United States of America, Unpublished BCom (Hons) research report, University of South Africa.

Hoesli, M., Lekander, J. & Witkiewicz, W. 2004. 'International evidence on real estate as a portfolio diversifier', *Journal of Real Estate Research,* 26(2): 161–206.

Hudson-Wilson, S. (Ed.) 2000. *Modern Real Estate Portfolio Management*. New Hope, PA: Frank J. Fabozzi Associates.

Hyprop Investments Limited. 2004. *Annual Financial Statements for the Year Ended 31 December 2003*. Sandton: Hyprop.

iFour Properties Limited. 2003. Annual Report 2003. Craighall: iFour Properties Limited.

IPD. 2004. IPD UK *Annual Index*. London: IPD. [Online] Available at: www.ipdindex.co.uk/results/indices/uk_annual/index_uk_annual.asp.

IPD. 2005. SAPOA/IPD South Africa Index for 2004. Press release, 7 April.

King, D.A. & Young, M.S. 1994. 'Why diversification doesn't work', *Real Estate Review,* Summer: 6–12.

Kloppers, E. 2004. 'Genoteerde eiendom kry 'n bedryfsliggaam', *Sake-Beeld,* 20 May, bl. 3.

Lee, S. & Devaney, S. 2004. 'Country, sector and regional factors in European property returns', Paper presented at the annual meeting of the European Real Estate Society, Milan, Italy, 2–5 June 2004.

Lieblich, F. 1995. 'The real estate portfolio management process', In Pagliari, J.L. (ed.), *The Handbook of Real Estate Portfolio Management*. Chicago, IL: Irwin.

Louargand, M.A. 1992. 'A survey of pension fund real estate portfolio risk management practices', *Journal of Real Estate Research,* 7(4): 361–373.

Malizia, E.E. & Simons, R.A. 1991. 'Comparing regional classifications for real estate portfolio diversification', *Journal of Real Estate Research,* 6(1): 53–78.

Markowitz, H. 1952. 'Portfolio selection', *Journal of Finance,* 7(1, March): 77–91.

Martprop Property Fund. 2003. *Annual Report 2003*. Durban: Marriot Property Services.

Metboard Properties Limited. 2003. *Annual Report 2003*. Sandton: Metboard Properties Limited.

Miles, M. & Esty, A. 1982. 'How well do commingled real estate funds perform?', *Journal of Portfolio Management,* 8: 62–68, quoted in Seiler, Webb & Myer (1999: 175).

Miles, M. & McCue, T. 1984. 'Diversification in the real estate portfolio', *Journal of Financial Research,* 7(1): 57–68.

Mueller, G.R. 1993. 'Refining economic diversification strategies for real estate portfolios', *Journal of Real Estate Research,* 8(1): 55–68.

Mueller, G.R. & Laposa, S.P. 1995. 'Property-type diversification in real estate portfolios: a size and return perspective', *Journal of Real Estate Portfolio Management,* 1(1): 39–50.

Mueller, G.R. & Ziering, B.A. 1992. 'Real estate portfolio diversification using economic diversification', *Journal of Real Estate Research,* 7(4): 375–386.

Nelson, T.R. & Nelson, S.L. 2003. 'Regional models for property diversification', *Journal of Real Estate Portfolio Management,* 9(1): 71–88.

Newell, G., Acheompong, P. & Worzala, E. 2002. 'Property research priorities in Australia', Paper delivered at the annual conference of the Pacific Rim Real Estate Society, Christchurch, 21–23 January 2002.

Newell, G. & Keng, T.Y. 2003. 'The significance of property sector and geographic diversification in Australian institutional portfolios', *Pacific Rim Property Research Journal,* 9(3): 248–264.

Newell, G., Chiu, P. & Juchau R. 1998. 'The information content of listed property trust annual reports', *Australian Land Economics Review,* 4(2): 19–24.

Octodec Investments Limited. 1999. 1999 *Annual Report*. Pretoria: City Property Administration.

Ori, J.J. 1995. 'A seven-step portfolio diversification strategy', *Real Estate Review,* (Summer): 27–32.

Pagliari, J.L. 1990. 'Real estate in 3-D: see it now!', *Real Estate Issues,* Fall–Winter: 16–19.

Pangbourne Properties Limited. 1999. *Annual Report 1999*. Craighall: Pangbourne Properties.

Paramount Property Fund. 2003. *Annual Report 2003*. Cape Town: Paramount Property Fund.

Peng, R., Hudson-Wilson, S. & Capps, O. 2000. 'Modelling office returns at the regional level', In Hudson-Wilson, S. (ed), *Modern Real Estate Portfolio Management*. New Hope, PA: Frank J. Fabozzi Associates.

Pioneer Property Fund. 2001. *Annual Report 2001*. Johannesburg: Sage Property Trust Managers.

Premium Properties Limited. 1999. *Annual Report 1999*. Pretoria: Premium Properties.

Prima Property Trust. 2003. *Annual Report Prima Property Trust 2003*. Stellenbosch: Prima Property Trust Managers Limited.

Pyhrr, S.A., Cooper, J.R., Wofford, L.E., Kaplin, S.D. & Lapides, P.D. 1989. *Real Estate Investment: Strategy, Analysis, Decision,* 2nd edition. New York: Wiley.

Rand Leases Properties Limited. 2001. *2001 Annual Report*. Craighall: Rand Leases Properties Limited.

Redefine Income Fund. 2003. *Annual Report 2003*. Rosebank: Redefine Income Fund Limited.

Reilly, F.K. & Brown, K.C. 2000. *Investment Analysis and Portfolio Management,* 6th edition. Fort Worth, TX: Dryden.

Resilient Property Income Fund. 2004. *Annual Report 2003*. Johannesburg: Resilient Property Income Fund.

Ross, S.A., Westerfield, R.W., Jordan, B.D. & Firer, C. 1996. *Fundamentals of Corporate Finance*. London: Irwin.

Roulac, S.E. 1976. 'Can real estate outperform common stocks?', *Journal of Portfolio Management,* 2: 26–43, quoted in Seiler, Webb & Myer (1999: 175).

Rubens, J.H., Louton, D.A. & Yobaccio, E.J. 1998. 'Measuring the significance of diversification gains', *Journal of Real Estate Research,* 16(1): 73–86.

SAPIX/IPD. 1999. SAPIX/IPD *South Africa Property Investors Digest 1999*. London: IPD.

SAPIX/IPD. 2002. SAPIX/IPD *South Africa Property Digest 2002*. Spreadsheet. London: IPD.

SA Retail Properties. 2003. *Annual Report 2003*. Durban: Marriot Property Services.

Seiler, M.J., Webb, J.R. & Myer, F.C.N. 1999. 'Diversification issues in real estate investment', *Journal of Real Estate Literature,* 7: 163–179.

Shulman, D. & Hopkins, R.E. 1988. *Economic Diversification in Real Estate Portfolios*. Research report by Salomon Brothers.

Spearhead Property Holdings Limited. 2004. *Annual Report 2003*. Spearhead Property Holdings Limited.

Stevenson, S. 2000. 'International real estate diversification: empirical tests using hedged indices', *Journal of Real Estate Research,* 19(1/2): 105–131.

Stevenson, S. 2003. 'International real estate diversification: empirical evidence using mean-variance spanning tests', Paper presented at the Pacific-Rim Real Estate Society annual conference, Brisbane, Australia, 19–22 January 2003.

Sycom Property Fund. 2004. *Annual Report 2004*. Sandton: Sycom Property Fund.

Van Rooyen, D. 2005. 'Genoteerde eiendom kort King-pil', *Sake-Rapport,* 22 May: 5.

Viezer, T.W. 2000. 'Evaluating "within real estate" diversification strategies', *Journal of Real Estate Portfolio Management,* 6(1): 75–95.

Wellner, K. & Thomas, M. 2004. 'Diversification benefits from European direct real estate investments with a special focus on the German market', Paper delivered at the European Real Estate Society conference, Milan, Italy, 2–5 June 2004.

Wilson, P.J. & Zurbruegg, R. 2003. 'International diversification of real estate assets: is it worth it? Evidence from the literature', *Journal of Real Estate Literature,* 11(3): 259–277.

Worzala, E.M., Gilliand, D. & Gordon, J. 2002. 'The real estate research needs of the plan sponsor community', *Journal of Real Estate Portfolio Management,* 8(1): 65–78.

Ziering, B. & Hess, R. 1995. 'A further note on economic versus geographic diversification', *Real Estate Finance,* 12(3): 53–60.

Ziering, B. & McIntosh, W. 1999. 'Property size and risk: why bigger is not always better', *Journal of Real Estate Portfolio Management,* 5(2): 105–112.

Detecting sub-cultures in an organisation

N. Martins & H. von der Ohe

ABSTRACT

The purpose of this study was to determine whether an organisational culture questionnaire could be used to detect sub-cultures in organisations. The instrument that has been used since 1989 in various organisational culture studies was adapted and applied in an organisation. The results indicated that management processes appear to be the dimension that differs most between biographical groups. This subsequently leads to the creation of sub-cultures in the different regions, which is supported by the statistical analysis. It also appears from the analysis that the more strategic or long-term focused dimensions may have the biggest influence on the creation of sub-cultures.

INTRODUCTION

Over the past 50 years, organisational culture has been studied from various perspectives and is regarded as central to business activities such as mergers and acquisitions, joint ventures, total quality management, organisational transformation, change, diversity and organisational performance (Buchanan & Huzynshi 2004; Cooper, Cartwright & Early 2001; Martins & Martins 2003). Davidson (2003: 162) refers in her study to the research and views of a number of authors and summarises the importance of culture as follows: "These studies discovered that organisational culture seems to create a unifying force that boosts organisational performance and that it affects both employee behaviour and financial performance of the organization."

In order to synthesise and understand organisational culture, various models and instruments have been developed to measure and assess organisational culture. Typical models and quantitative assessment tools are summarised by Ashkanasy, Broadfoot & Falkus (2000: 133), according to whom three of the instruments focus on the first level of Schein's (1985) typology, namely patterns of behaviour, or the norms of behaviour, while the remaining 15 culture instruments address the second level of organisational culture, namely beliefs and values. This is a clear indication that

Prof. N. Martins & Mr H. von der Ohe (senior lecturer) are in the Department of Industrial and Organisational Psychology, University of South Africa. E-mail: nicellen@iafrica.com

researchers define their own approaches to culture assessment and conceptualise organisational culture in a way that is useful for a specific environment or organisational need.

Researchers and authors in the current millennium (Ashkanasy, Wilderom & Peterson 2000; Cooper et al. 2001; Martins, Martins & Terblanche 2004; Robbins, Odendaal & Roodt 2003) continue to emphasise the importance of organisational culture for business.

Although different approaches are used to assess organisational culture, researchers agree that organisational culture plays an important role in organisations:

- A strong culture provides shared values that ensure that everyone in the organisation is on the same track (Robbins 1996) and employees are influenced to be good citizens and 'go along' (Ivancevich, Konopaske & Matterson 2005).
- Culture enhances organisational commitment and increases the consistency of employee behaviour (Martins & Martins 2003).
- Organisational culture complements rational managerial tools (such as strategy, goals, tasks, technology, organisational structure, information systems and performance appraisal) by playing an indirect role in influencing behaviour (Martins et al. 2004).
- Organisational culture has a huge influence on change in organisations because change often encompasses the transformation of basic values and beliefs (Smit & Cronje 1997).
- It is assumed that culture predominantly serves two functions that contribute to organisational success or prevent it, namely internal integration and coordination (Furnham & Gunter 1993).
- Culture is regarded as the way of perceiving, thinking and feeling in relation to the group's problems (Schein 1985).
- "Culture is manageable in terms of a culture-controlling management and follows the formulated strategy. One only has to identify the presently existing culture, that is, its components, and then change it (the culture) or them (its components) toward the desired culture, or 'close the culture gap' " (Furnham & Gunter 1993: 71).
- Research conducted by Denison & Fisher, as quoted by Franck (2005), "clearly shows that, regardless of the size, sector, industry or age of a business, culture affects performance".

Another important aspect of culture that researchers emphasise is the acknowledgement that culture has common properties. However, in most large organisations, there are a dominant culture and a number of sub-cultures (Robbins 2005; Deal & Kennedy 1982; Kotter & Heshett 1992). Lok & Crawford (1999) indicate in their research that "several writers have emphasised that organisational sub-cultures may

exist independently of organisation culture and that a small group may have its own distinct set of values, beliefs and attitudes". Research by Harris & Ogbonna (1998) indicates that the different levels in an organisational hierarchy have different views of organisational culture, while Lok & Crawford (1999) found that sub-cultures have, for instance, a stronger association with commitment than organisational culture and that organisational culture and sub-cultures have different effects on individuals in the workplace. Schein (1985) also refers to subunits in an organisation that can be referred to as groups and that may develop group cultures. The existence of sub-cultures is summarised by Martins (2000) as the unique values that are shared by smaller groups of employees with the same problems, situations and experiences. Variables that play a role in the formation of sub-cultures are departmental groupings, geographical distribution, occupational categories, race groups or the influence of a specific manager. The influence of sub-cultures on employees' behaviour can thus not be ignored in the assessment of organisational culture (Robbins 1996).

ROLE OF QUANTITATIVE MEASUREMENT

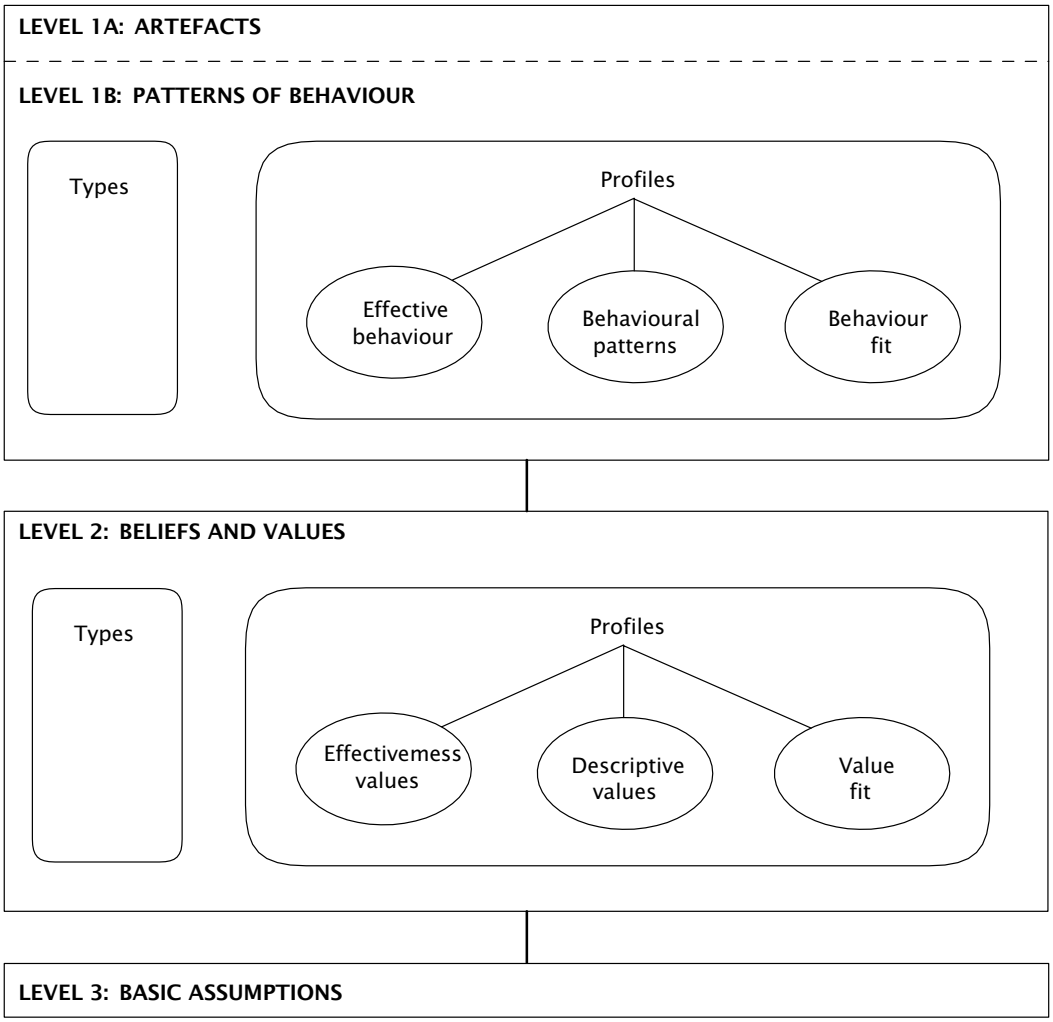
The foregoing classification of quantitative survey measures of organisational culture by Ashkanasy et al. (2000a) gives an overview of organisational survey instruments up to 1992. Ashkanasy et al. (2000a) found a lack of consensus concerning questionnaire format as well as lack of a theoretical basis for many of the instruments. This creates difficulties for assessing organisational culture as well as its impact on business and organisational performance. The focus of organisational culture research can, according to Ashkanasy et al. (2000a), be classified as either typing or profile surveys.

Typing surveys are those that classify organisations into particular taxonomies on the basis of role, achievement, power and support (Pheysey 1993), or the clan culture, adhocracy culture, hierarchical culture and market culture (Cummings & Worley 2005), while the second type of survey scale (profile surveys) focuses on a variety of beliefs and values resulting in separate scores on a number of dimensions.

Over and above these two approaches, Ashkanasy et al. (2000a) found that three of the instruments focus on the first level of Schein's (1985) typology, namely patterns of behaviour or the norms of these patterns, while the remaining 15 instruments address the second level of Schein's organisational culture, namely beliefs and values (see Figure 1).

Ashkanasy et al. (2000: 131) discuss the limitations and usefulness of quantitative measurements in some depth and conclude that "in summary, what is borne out by the literature, is that questionnaires can play an important role in quantitative analysis of culture because multiple methods are often complex, expensive and time consuming". They further recommend that quantitative procedures should be used together with qualitative methods to study organisational culture and climate.

A South African-developed organisational profile survey instrument (Martins 1989) and model to describe organisational culture based on the work of Schein

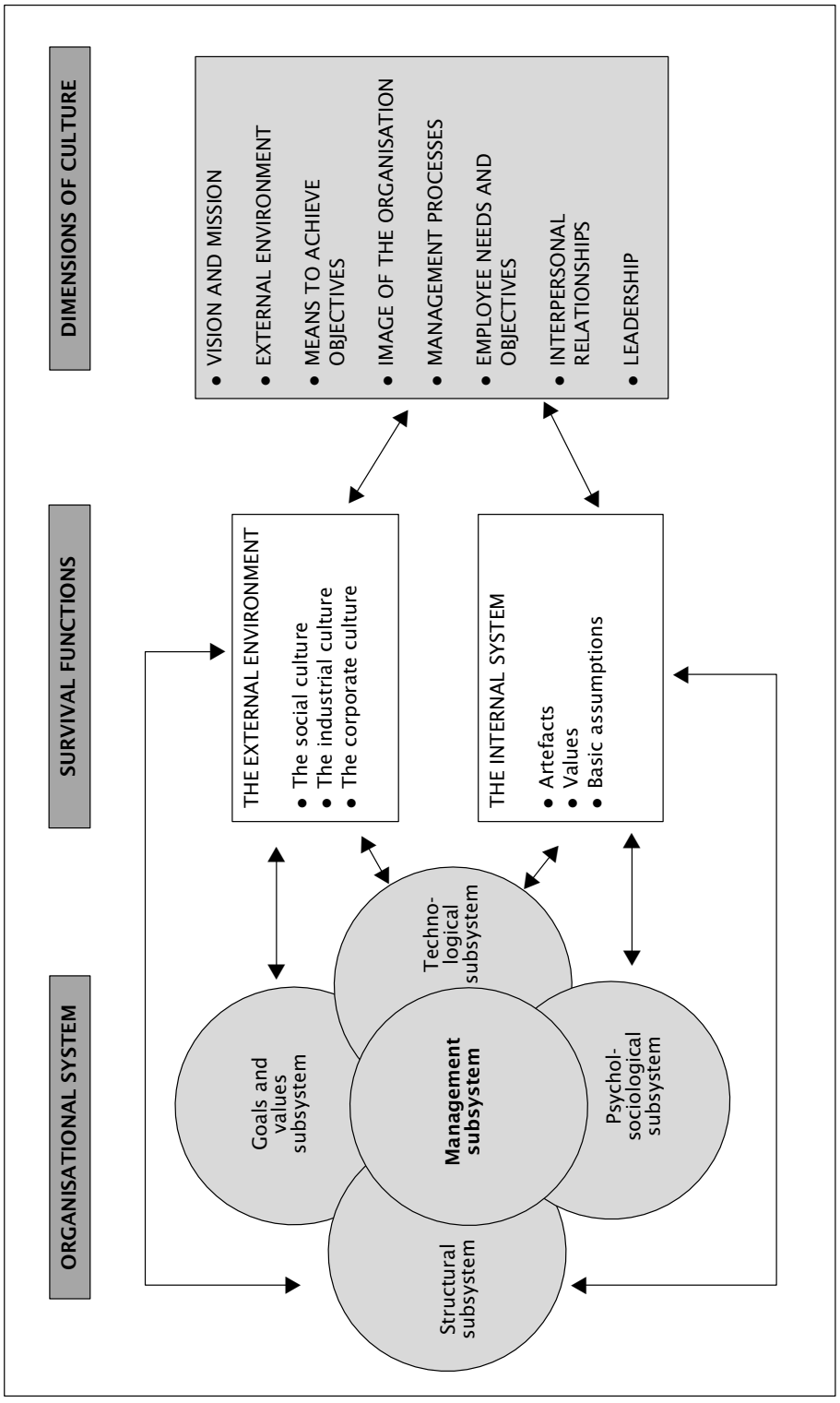


Source: Ashkanasy et al. 2000a: 134

Figure 1: Quantitative instruments operating at different levels of culture

(1985) is an approach to conceptualising organisational culture in a way that is useful to managers who are trying to understand and manage culture. A theoretical model (see Figure 2) was developed to portray organisational culture and its dimensions (Martins 1989: 14). Martins (1989: 15) defines organisational culture as follows:

> Organisational culture is an integrated pattern of human behaviour, which is unique to a particular organisation and which originated as a result of the organisation's survival process and interaction with its environment. Culture directs the organisation to goal attainment. Newly appointed employees must be taught what is regarded as the correct way of behaving.



Source: Adapted from Martins (1987: 92); as adapted in 1997

Figure 2: Organisational culture model

This definition tries to capture not only the essence of the work of earlier researchers such as Schein, but also the importance of organisational culture for management.

Martins's model is based on the interaction between the organisational sub-systems (goals and values, and structural, managerial, technological and psychosociological sub-systems), the two survival functions, namely the external environment (social, industrial and corporate culture) and the internal systems (artefacts, values and basic assumptions) and the dimensions of culture. These dimensions encompass the following (Martins 1989; Martins 2000):

- Vision and mission, which determines employees' understanding of the vision, mission and values of the organisation and how these can be transformed into measurable individual and team goals and objectives
- External environment, which determines the degree of focus on external and internal customers and also employees' perceptions of the effectiveness of community involvement
- Means to achieve objectives, which determines the way in which organisational structure and support mechanisms contribute to the effectiveness of the organisation
- Image of the organisation, which focuses on the image of the organisation to the outside world and on whether it is a sought-after employer
- Management processes, which focuses on the way in which management processes take place in the organisation, including aspects such as decision-making, formulating goals, innovation processes, control processes and communication
- Employee needs and objectives, which focuses on the integration of employees' needs and objectives with those of the organisation as perceived by employees
- Interpersonal relationships, which focuses on the relationship between managers and personnel and on the management of conflict
- Leadership, which focuses on specific areas that strengthen leadership, as perceived by employees.

This a comprehensive model that encompasses all the aspects of an organisation that organisational culture could influence, and *vice versa*. This model can therefore be used to describe organisational culture in any organisation. The model has been used (Martins 1989, 2000) as the basis for identifying the determinants of organisational culture that influence the degree of creativity and innovation in organisations. The organisational culture questionnaire, based on the model and dimensions, was used to diagnose organisations quantitatively. The quantitative assessment was supported by qualitative assessments that were done by means of focus groups and interviews with a view to understanding and clarifying the deeper levels of culture. However, changing market trends, such as timeousness and cost

implications, have made it necessary sometimes to use only quantitative assessments. It is, however, important to use instruments that have been validated for the particular criteria they are required to measure. If instruments have not been validated, they may produce poor results that in turn can lead to poor decision-making on a probable culture change (Steinberg & Wagner, quoted in Franck 2005).

PROBLEM INVESTIGATED

The research sets out to validate the reliability and validity of the South African Culture Instrument (SACI) in an organisation with eight regions in South Africa and then to determine whether any sub-cultures can be detected in the organisation.

RESEARCH STRATEGY

The participants

Four hundred and eighty-seven (487) employees from a listed company participated in the survey. The sample was drawn from all eight regions (see Table 1). Human resources consultants in the various regions managed the distribution and collection of the questionnaires. The names of the regions were changed to maintain organisational confidentiality.

Table 1: Responses per region

Responses	Frequency	%	Cumulative %
Region A	72	14.8	14.8
Region B	77	15.1	29.9
Region C	64	13.1	43.0
Region D	36	7.4	50.4
Region E	72	14.8	65.2
Region F	30	6.2	71.4
Region G	20	4.1	75.5
Region H	62	12.7	88.2
No Response	54	11.8	100.0

Table 2 provides an overview of the biographical groups that participated in the survey. From these results, it can be inferred that the majority of respondents belong to the job grade of 'staff' and are female and African. The distribution between full time and semi-full time respondents is almost even. Although all the questionnaires

were distributed by human resources consultants, who assured participants that their responses would be treated confidentially, a number of participants did not complete the biographical section (between 10.5% and 12.0% of the response group).

Table 2: Biographical variables

Category	Frequency	%
Job grade		
Executive management	2	0.4
Senior management	16	3.3
Management	78	16.0
Staff	338	69.4
No response	53	10.9
Total		100.0
Gender		
Male	176	36.1
Female	260	53.4
No response	51	10.5
Total		100.0
Race		
African	217	44.6
Coloured	63	12.9
Indian	48	9.9
White	103	21.2
No response	56	11.4
Total		100.0
Employment status		
Full time	206	42.3
Semi-full time	222	45.6
No response	59	12.1
Total		100.0

The measuring instrument

The South African Culture Instrument (SACI) has been used since 1989 for various organisational culture studies. The overall reliability (Cronbach Coefficient Alpha) of the SACI was 0.933, and the internal consistency of the dimensions between 0.655 and 0.932 (Martins et al. 2004). The questionnaire as a quantitative measurement is usually supported by qualitative analysis such as focus groups and interviews. The questionnaire dimensions, as portrayed in Figure 2, give an overview of the existing

questionnaire dimensions. In collaboration with the participating company, the 89 items of the questionnaire were refined and updated to adhere to the criteria for questionnaire construction and the needs of the organisation. The purpose of this was twofold, namely to ensure the content validity of the questionnaire and to ensure that the questionnaire items were as clear as possible, since no qualitative analysis would be used to support the quantitative analysis in this case. The questionnaire employs a five-point response format ranging from strongly disagree (1), disagree (2) and uncertain (3) to agree (4) and strongly agree (5). This gave the researchers the opportunity to validate the questionnaire in an environment where no simultaneous qualitative analysis is done.

Statistical analysis

The statistical procedures were selected for their suitability to the purpose of the study. These procedures indicate descriptive statistics, factor analysis, item analysis and analysis of variance. All calculations were done by means of the SPSS-Windows program of SPSS (Statistical Package for the Social Sciences).

RESULTS

Factor analysis

After careful analysis of the descriptive statistics, factor analysis was used to assess whether the instrument measures substantive constructs (construct validity). Kaiser's criterion and scree plot were employed in determining the number of factors to include (Hair, Anderson, Tatham & Black 1995). The principal factor analysis, also called principal axis factoring, was used after eight factors were postulated according to Kaiser's (1961) criterion (eigenvalues greater than unity) and scree plot. The factor matrix obtained was rotated to simple structure by means of Varimax rotation. The eight factors explain 52% of the variance in the factor space (see Table 3).

According to Hair et al. (1995), solutions of less than 60% of the total variance (and in some instances even less) are regarded as a satisfactory solution in the social sciences. The results in Table 4 give an overview of the rotated factor matrix. Only two statements (factors 3 and 4) show factor loadings of less than 0.30. After the item analysis, the inclusion or exclusion of these two items is considered. Hair et al. (1995) use the following rule of thumb to examine a factor matrix: factor loadings greater than $\pm$ 0.30 are considered to meet the minimal level; loadings of $\pm$ 0.40 are considered more important; and if the loadings are 0.50 or greater, they are considered practically significant. Hair et al. (1995) further state that for a sample size of 350 or greater, loadings of 0.30 can be regarded as having practical significance.

Table 3: Total variance explained

Initial eigenvalues				Extraction sums of squared loadings		
Factor	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	1.348	7.929	7.929	.481	2.827	2.827
2	1.125	6.619	14.547	.282	1.660	4.486
3	1.108	6.519	21.066	.235	1.381	5.867
4	1.097	6.450	27.517	.215	1.266	7.133
5	1.061	6.243	33.759	.178	1.048	8.181
6	1.056	6.211	39.970	.159	.938	9.118
7	1.021	6.006	45.976	.113	.665	9.783
8	1.017	5.982	51.958	.098	.575	10.358

Table 4: Rotated factor matrix (Varimax)

	Factor							
	1	2	3	4	5	6	7	8
V83	0.785							
V85	0.770							
V80	0.769							
V82	0.767							
V88	0.762							
V86	0.756							
V81	0.754							
V87	0.725							
V84	0.719							
V89	0.655							
V90	0.575							
V79	0.494							
V42	0.471							
V67	0.452							
V66	0.446							
V54	0.400							
V71	0.381							
V65		0.572						
V64		0.533						
V74		0.527						
V73		0.515						
V72		0.512						
V63		0.494						
V61		0.478						
V75		0.467						

Table 4: (continued)

	Factor							
	1	2	3	4	5	6	7	8
V68		0.453						
V69		0.446						
V37		0.435						
V58		0.425						
V17		0.425						
V76		0.424						
V60		0.417						
V59		0.414						
V38		0.409						
V70		0.387						
V56		0.383						
V62		0.370						
V36		0.359						
V44		0.337						
V46		0.334						
V24			0.490					
V23			0.483					
V26			0.475					
V40			0.470					
V53			0.465					
V8			0.448					
V52			0.447					
V48			0.446					
V15			0.438					
V39			0.429					
V9			0.423					
V41			0.421					
V25			0.411					
V47			0.411					
V27			0.402					
V20			0.400					
V10			0.399					
V18			0.397					
V55			0.391					
V32			0.379					
V43			0.363					
V22			0.302					
V28			0.255					
V49				0.544				
V11				0.520				
V57				0.518				
V29				0.517				

Table 4: (continued)

	Factor							
	1	2	3	4	5	6	7	8
V21				0.515				
V14				0.509				
V13				0.509				
V6				0.462				
V31				0.426				
V12				0.420				
V16				0.416				
V19				0.399				
V45				0.373				
V51				0.293				
V2					0.684			
V1					0.643			
V3					0.452			
V4					0.421			
V5					0.376			
V7					0.357			
V34						0.768		
V35						0.736		
V33						0.677		
V50							0.429	
V30							0.368	
V77								0.675
V78								0.675

Using the results of the factor analysis, the factors were named as follows:

- Factor 1: Leadership, which focuses on specific attributes that strengthen leadership such as people management, leaders' competence, managing the work and personal contact with employees
- Factor 2: Means to achieve objectives, which determines the way in which organisational structure and support mechanisms (such as support services, conflict handling, physical appearance, work distribution and coordination) contribute to the effectiveness of the organisation
- Factor 3: Management processes, which focuses on the way in which management processes take place in the organisation – these processes include aspects such as management of change, setting and implementing of goals, training, delegation and performance management
- Factor 4: Employee needs and objectives, which focuses on interpersonal aspects that influence the individual, such as the remuneration systems, equal opportunities, caring, trust, career planning and participation in decision-making

- Factor 5: Vision and mission, which determines employees' understanding of the vision, mission and values of the organisation and their informing of the strategy
- Factor 6: External environment, which determines employees' understanding of the effectiveness of community involvement
- Factor 7: Diversity strategy, which focuses on the communication of the organisation's employment equity or diversity strategy.

Item and reliability analysis

Reliability is a measure of the internal consistency of the construct indicators, depicting the degree to which they "indicate the common latent unobserved construct"(Hair et al. 1995: 641). 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 (Nunnally 1967). The results of the reliability analysis in Table 5 show that seven of the eight constructs show reliability coefficients of above 0.7, which indicates high reliability. All the remaining factors portray highly satisfactory results, with coefficients ranging between 0.8021 and 0.9529. All constructs except factor 7 were retained for further analysis.

Table 5: Reliability coefficients of constructs

	Cronbach's Alpha			
Construct	**Initial reliability coefficient**	**Number of items**	**Final reliability coefficient**	**Number of items**
Factor 1	0.9529	17	0.9529	17
Factor 2	0.9235	23	0.9235	23
Factor 3	0.9346	23	0.9346	23
Factor 4	0.9074	14	0.9074	14
Factor 5	0.8136	6	0.8136	6
Factor 6	0.8484	3	0.8484	6
Factor 7	0.3947	2	–	–
Factor 8	0.8021	2	0.8021	2

Analysis of variance/t-test

All the items in the culture questionnaire require the respondent to respond on a 5-point Likert-type scale, where a low rating (1) indicates that the respondents strongly disagree and a high rating (5) that they strongly agree. The questionnaire is then scored for each of the various dimensions as uncovered by the factor analysis. All factors are scored such that a low score indicates non-acceptance of the cultural

dimension, while a high score indicates acceptance of the cultural dimension. An objective of the study is to determine whether the SACI can be used to detect sub-cultures. The analysis of variance and t-test approaches are appropriate strategies for achieving this objective. The biographical groups such as regions, job grades, gender, race and employment status are regarded as the independent variables. The dependent variables are the cultural dimensions derived from the factor analysis. The results of the analysis of variance are displayed in Tables 6 to 10.

Table 6: ANOVA summary table for the race groups as the independent variables and the dimensions as the dependent variable

Dimension	Source	SS	df	ms	F	Sig
Factor 3: Management processes	Between groups	71.095	3	23.698	37.667	0.000*
	Within groups	268.664	427			
	Total	339.739	430			
Factor 5: Vision and mission	Between groups	15.983	3	5.328	7.515	0.000*
	Within groups	302.724	427			
	Total	318.707	430			

* $p < 0.01$

Table 7: ANOVA summary table for the job grades as the independent variables and the dimensions as the dependent variable

Dimension	Source	SS	df	ms	F	Sig
Factor 3: Management processes	Between groups	42.584	3	14.195	20.521	0.000*
	Within groups	297.433	430			
	Total	340.017	433			
Factor 2: Means to achieve objectives	Between groups	5.473	3	1.824	2.239	0.083***
	Within groups	350.364	430			
	Total	355.837	433			
Factor 7: Diversity strategy	Between groups	7.356	3	2.452	3.210	0.023**
	Within groups	328.523	430			
	Total	335.880	433			

* $p < 0.01$
** $p < 0.05$
*** $p < 0.10$

Table 8: ANOVA summary table for the regions as the independent variables and the dimensions as the dependent variable

Dimension	Source	SS	df	ms	F	Sig
Factor 1: Leadership	Between groups	19.675	7	2.811	3.136	0.003*
	Within groups	380.940	425			
	Total	400.615	432			
Factor 2: Means to achieve objectives	Between groups	10.731	7	1.533	1.885	0.070***
	Within groups	345.687	425			
	Total	356.418	432			
Factor 3: Management processes	Between groups	91.391	7	13.056	21.967	0.000*
	Within groups	252.600	425			
	Total	343.992	432			
Factor 4: Employee needs and objectives	Between groups	10.332	7	1.476	1.870	0.073***
	Within groups	335.525	425			
	Total	345.856	432			
Factor 5: Vision and mission	Between groups	18.388	7	2.620	3.531	0.001*
	Within groups	315.346	425			
	Total	333.683	432			
Factor 6: External environment	Between groups	10.459	7	1.494	1.910	0.067***
	Within groups	332.564	425			
	Total	343.023	432			
Factor 7: Diversity strategy	Between groups	19.469	7	2.781	3.693	0.001*
	Within groups	320.114	425			
	Total	339.582	432			

* $p < 0.01$
** $p < 0.05$
*** $p < 0.10$

Table 9: Summary table for gender groups as the independent variables and the dimensions as the dependent variable

			t-test for equality of means			
Dimension	**Gender**	**(a) Mean**	**Std**	**t**	**df**	**Sig (2-tailed)**
Factor 5: Vision and mission	Male	0.13164	0.81254	2.592	434	0.010**
	Female	-0.08969	0.91437			
Factor 6: External environment	Male	-0.10111	0.88096	-2.233	434	0.026**
	Female	0.09185	0.88435			

(a) Factor scores for dimension analysis were used
Equal variables assumed
* $p < 0.01$
** $p < 0.05$

Table 10: Summary table for employment status groups as the independent variables and the dimensions as the dependent variable

			t-test for equality of means			
Dimension	**Gender**	**(a) Mean**	**Std**	**t**	**df**	**Sig (2-tailed)**
Factor 2: Means to achieve objectives	Full time	-0.08286	0.07380	-2.112	426	0.035*
	Intermittent	0.10326	0.09440			
Factor 3: Management processes	Full time	-0.39438	0.88359	-8.162	426	0.000*
	Intermittent	0.25406	0.75892			
Factor 6: External environment	Full time	0.08326	0.88428	1.698	426	0.090***
	Intermittent	-0.06414	0.90972			

(a) Factor scores for dimension analysis were used

* $p < 0.01$
** $p < 0.05$
*** $p < 0.10$

DISCUSSION

The culture instrument

The results of the factor and item analysis changed the original dimensions of the questionnaire somewhat. In the original analysis, eight dimensions were postulated. The current analysis postulated seven dimensions. A more detailed investigation of the content of the dimensions reveals that the dimensions on vision and mission, means to achieve objectives, management processes and external environment did not change substantially. However, the two dimensions of image of the organisation and interpersonal relationships were now integrated with leadership and employee needs and objectives. A new dimension, namely diversity strategy, was postulated. This is in line with the emphasis on employment equity/diversity in South Africa and in the participating company. Two statements that focus on employment equity and personal effort were omitted from the final analysis because of low factor and item loadings.

Detecting sub-cultures

The analysis of variance and t-test were used to determine whether any significant differences occur between the various biographical variables in order to determine whether the SACI can be used to detect sub-cultures in an organisation. The results of the analysis of variance and t-tests (Tables 6 to 10) give an overview of the significant differences between the various biographical groups. In interpreting the tables, it is important to note that management processes appears to be the dimension

with the greatest significant difference between the biographical groups (namely, race, job grades, regions and status groups). This is an indication that management processes are applied or implemented differently in the various regions and experienced differently by various biographical groups. This leads to the creation of different sub-cultures of the way things are done. These results are further supported by the significant differences in the regions experienced in vision, mission, leadership and diversity strategy. These more strategic dimensions consequently impact on the implementation of management processes in the regions (Table 8). The impact of these 'strategic dimensions' is also apparent in the significant differences between the regions, although at a lower level of significance, in the remaining three dimensions (means to achieve objectives, employee needs and objectives and external environment).

Table 11: Summary of significant differences by dimension and biographical group

Dimensions of culture	**Biographical groups**	**Significant difference**
Vision and mission	Regions	*
	Race	*
	Gender	**
Leadership	Regions	*
Management processes	Regions	*
	Race	*
	Job grades	*
	Status groups	*
Means to achieve objectives	Regions	***
	Job grades	***
	Status groups	*
Employee needs and objectives	Regions	***
External environment	Regions	***
	Gender	**
	Status groups	***
Diversity strategy	Regions	*
	Job grades	**

* $p < 0.01$
** $p < 0.05$
*** $p < 0.10$

The analysis of the biographical groups indicates that the most significant differences between the biographical groups are between the regions (Table 11). This might be explained by the fact that each region has a different manager or leader with his/her own management style, unique problems and different demographics. If the different demographics of South Africa (provinces, language groups and income groups) are considered, it is understandable that the management processes, especially their implementation, differ. According to Deal & Kennedy (1982), all companies have sub-cultures because of functional differences, gender, socio-economic and educational backgrounds. Kotter & Heshett (1992) believe that large and geographically dispersed organisations may have hundreds of different cultures. Robbins (2005) summarises these authors' understanding of culture. He believes that most large organisations have a dominant culture and numerous sets of sub-cultures. These sub-cultures tend to develop in large organisations to reflect common problems, situations or experiences. Ball & Ashbury (1998) focused on South African companies in their research and concluded that there seems to be no reason why different departments should not retain essential differences while having in common the qualities that shape the corporate culture. The results in Table 6, which indicate significant differences between the race groups for the dimensions of vision and mission and the management processes, support these findings. The job grades show significant differences for the dimensions of the management processes, the means to achieve objectives and the diversity strategy (Table 7). This is an indication that the various job levels and race groups experience these dimensions differently and also that they seem to modify the values to reflect their own distinct situation (Robbins 2005). Harris & Ogbonna (1998) found in their research that the various levels of the organisational hierarchy have different views of organisational culture, for instance the views of senior managers can be radically different from those of shop floor workers. Males and females experience only the vision and mission and the external environment differently (Table 9). This is an indication that gender does not influence the sub-cultures in the organisation to a large extent.

In summary, the results of the foregoing analysis indicate the creation of sub-cultures in the regions, which to some extent are reflected in some of the other biographical groups (Table 11). It appears from the analysis that the more strategic or long-term dimensions may have the biggest influence on the creation of sub-cultures. Lok & Crawford (1999) highlight the importance of sub-cultures in the summary of their research, noting that organisational sub-cultures had a greater effect on organisational commitment than did organisational culture. In particular, their study showed that innovative and supportive sub-cultures have a significant and positive effect on participants' commitment. This study confirms the creation of sub-cultures in a South African organisation. The assumption can thus be made that the management processes and means to achieve objectives are, especially in the regions

in which this organisation operates, applied differently. This discussion fulfils the purpose of the article, namely to determine whether SACI can be used to detect sub-cultures.

Future research should focus on the impact of sub-cultures across companies and the role they play in organisational effectiveness. Opportunities also exist for further research to explain the impact and influence of culture in the different sub-sectors of South African industries. The importance of employment equity/diversity on South African business practices also needs to be acknowledged in such research.

REFERENCES

Ashkanasy, N.M., Broadfoot, L.E. & Falkus, S. 2000a. 'Questionnaire measures of organisational culture', In Ashkanasy, N.M., Wilderom, C.P.M & Peterson M.F. (eds), *Handbook of Organizational Culture and Climate*, pp. 133–147. California: Sage.

Ashkanasy, N.M., Wilderom, C.P.M. & Peterson, M.F. (eds). 2000b. *Handbook of Organizational Culture and Climate*. California: Sage.

Ball, A. & Ashbury, S. 1998. *The Winning Way. Lessons from Super-Performing South African Companies*. Johannesburg: Jonathan Ball.

Buchanan, D. & Huzynshi, A. 2004. *Organizational Behaviour. An Introductory Text*. Harlow: Prentice-Hall.

Cooper, C.L., Cartwright, S. & Early, P.C. (eds). 2001. *The International Handbook of Organizational Culture and Climate*. Chichester: John Wiley & Sons.

Cummings, T.G. & Worley, C.G. 2005. *Organization Development and Change,* 8th edition. Ohio:Thomson.

Davidson, G.M. 2003. The relationship between organisational culture and financial performance in a South African Investment Bank. Unpublished master's dissertation. University of South Africa, Pretoria.

Deal, T.E. & Kennedy, A.A.C. 1982. *Corporate Cultures. The Rites and Rituals of Corporate Life*. London: Addison-Wesley.

Franck, C.J. 2005. Reliability of the Denison Organisational Culture Survey (DOCS) for use in a financial institution in South Africa. Unpublished masters dissertation. University of South Africa, Pretoria.

Furnham, A. & Gunter, B. 1993. *Corporate Assessment: Auditing a Company's Personality*. London: Routledge.

Hair, J.F., Anderson, R.E., Tatham, R.L & Black, W.L. 1995. *Multivariate Data Analysis,* 4th edition. Englewood Cliffs, NJ: Prentice-Hall.

Harris, L.C. & Ogbonna, E. 1998. 'A three-perspective approach to understanding culture in retail organizations', *Personal Review*, 7(2): 104–123.

Ivancevich, J.M., Konopaske, R. & Matterson, M.T. 2005. *Organizational Behaviour and Management,* 7th edition. Boston: McGraw-Hill, Irwin.

Kaiser, H.F. 1961. 'A note on Guttman's lower bound for the number of common factors', *British Journal of Statistical Psychology*, 14(1): 1.

Kotter, J.P. & Heshett, J.L. 1992. *Corporate Culture and Performance*. New York: Free Press.

Lok, P.S. & Crawford, J. 1999. 'The relationship between commitment and organizational culture, sub-culture leadership style and job satisfaction in organizational change and development', *Leadership and Organizational Development Journal*, 20(7): 365–373.

Martins, E.C. 2000. Die invloed van organisasiekultuur op kreatiwiteit en innovasie in 'n universiteitsbiblioteek. Unpublished masters dissertation. University of South Africa, Pretoria.

Martins, E.C., Martins, N. & Terblanche, F. 2004. 'An organisational culture model to stimulate creativity and innovation in a university library', *Advances in Library Administration and Organization,* 21.

Martins, N. 1989. Organisasiekultuur in 'n finansiële instelling. Unpublished doctoral thesis. University of Pretoria.

Martins, N. & Martins, E.C. 2003. 'Organisational culture', In Robbins, S.P., Odendaal A. & Roodt, G. (eds), *Organisational Behaviour: Global and Southern African Perspectives,* pp. 379–400. Cape Town, Pearson Education.

Nunnally, J.C. 1967. *Psychometric Theory.* New York: McGraw-Hill.

Pheysey, D.C. 1993. *Organisational Cultures: Types and Transformations.* London: Routledge.

Robbins, S.P. 1996. *Organizational Behaviour Concepts, Controversies, Applications,* 7th edition. Englewood Cliffs, NJ: Prentice-Hall.

Robbins, S.P. 2005. *Organizational Behaviour,* 11th edition. Upper Saddle River, NJ: Prentice Hall.

Robbins, S.P., Odendaal, A. & Roodt, G. 2003. *Organisational Behaviour: Global and Southern African Perspectives.* Cape Town. Pearson Education.

Schein, E.H. 1985. *Organizational Culture and Leadership.* San Francisco, CA: Jossey-Bass.

Smit, P.J. & Cronje, G.J. de J. (eds). 1997. *Management Principles.* Kenwyn: Juta.

Motivating factors of local residents for attending the Aardklop National Arts Festival

C. van Zyl

ABSTRACT

The research on which this article is based was undertaken in Potchefstroom, where the Aardklop National Arts Festival takes place. This article is a sequel to a previous article, 'Identifying situational inhibitors regarding the Aardklop National Arts Festival' (Van Zyl 2005). The host community plays an important role in the recurrence and sustainability of the festival. As little research has been done so far on the push and pull factors motivating local residents to attend a festival in South Africa, the aim was to identify and investigate the motivational factors that might drive local residents of Potchefstroom to attend and participate in the festival. The biggest overall push factor of festival attendees is family togetherness, while the atmosphere at the festival is the single most important push item to attend the festival. The strongest overall pull factor of festival attendees is information and marketing, with a wide variety of activities and entertainment being the single highest-rated pull item. Music is the most sought-after festival activity enjoyed by festival attendees, and the arts and craft stalls are the most enjoyed item at the festival.

INTRODUCTION

Among the fastest-growing segments of tourism in the world are festivals and events (Goeldner, Ritchie & McIntosh 2000: 234). Countries such as South Africa compete vigorously for mega-events such as the Olympics, World Cup Rugby or Soccer and various World Fairs. Festivals and events are an important part of the tourism industry in South Africa (Tassiopoulos 2005: 4). Over the past few years, the country has experienced a significant increase in the number and size of festivals and events, and the benefits of such activities are increasingly being realised by developing countries (Saayman & Saayman 2004: 629; Tassiopoulos 2005: 4). Research is needed on what motivates people to attend festivals and events.

The Aardklop Festival held in Potchefstroom is one of the largest and most popular of the more than 85 annual festivals hosted in South Africa. The annual

Dr C. van Zyl is a senior lecturer in Tourism Management in the Department of Transport Economics, Logistics and Tourism, University of South Africa. E-mail: vzylc@unisa.ac.za

Aardklop Festival was first held in 1998. The research on which this article is based focused on this festival and is presented as a scenario. The global festivals and events industry is entering the mature stage of its lifecycle, while other festivals are reported to be in the embryonic stage (Yeoman, Robertson, Ali-Knight, Drummond & McMahon-Beattie 2004: xix). However, the South African festival industry is becoming better educated, and local audiences know they can attend some of the other festivals hosted nationally as well as internationally (Witepski 2002: 53). This is why it is important to utilise all the resources available (such as getting support from the local residents of Potchefstroom) to prevent local residents from going elsewhere.

Most of the motivational literature published in tourism focuses on push and pull factors (Backman, Backman, Uysal & Sunshine 1995: 15). Motivational factors for attending arts festivals are also well documented in tourism literature. Previous research on the topic includes studies such as that of Uysal, Gahan & Martin (1993) at the community festival in South Carolina, and by Mohr, Backman, Gahan & Backman (1993), who investigated the reasons why attendees visited the North American hot-air balloon festival. Both groups of authors reported five principal motivations for attending festivals, namely escape, excitement/thrills, event novelty, socialisation and family togetherness. Although the push motivations for visiting the community festival in South Carolina and the North American hot-air balloon festivals were the same, the order was slightly different. Schneider & Backman (1996) report the following pull factors in their study in Jordan on cross-cultural equivalence in festival motivations, namely to enjoy the food, to enjoy a festival crowd and to observe other people attending the festival. Getz (1997: 11) lists the following festival attributes (push factors) in a festival context: service quality, accessibility, festival variety, food and beverages, information and marketing, performing, participatory and visual arts, and image of festival.

However, there has been little investigation of festival motivation, push and pull factors, and activities in the context of event tourism in South Africa. Previous research in South Africa includes economic impact studies by Snowball (2004: 1075) on the Grahamstown National Arts Festival, and by Saayman & Saayman (2004) on the Aardklop National Arts Festival, the Klein Karoo National Arts Festival (KKNK), the Grahamstown Festival and various other individual festivals (Snowball 2004; Van Heerden 2003; Williams 1997). Keyser (1996) reports a market profile of the attendees at the KKNK held in Oudtshoorn, while Du Plessis, Bouwer & Uken (1990) investigated the marketing potential of special occasions and festivals within a South African context. Although various reports (Snowball 2005; Joseph 2004; Kitshoff 2004a, 2004b) are documented in the literature on arts festivals held in South Africa, none address the motivational factors present. The current research will fill this gap identified in previous research in South Africa.

Research regarding the role that local residents in the host community play in the Aardklop Festival is necessary. By understanding what drives and motivates (pushes and pulls) participation, the festival management could probably gain better insight into a strategy to maintain attendees and to draw new ones to the festival. This could improve the current position of the Aardklop Festival in the South African market, thereby ensuring the overall sustainability of the festival. No such research on the Aardklop Festival had been conducted in South Africa at the time of this study.

The primary aim of the present research was therefore to fill the gap in previous research by determining what motivational factors push and pull the local residents of Potchefstroom to attend the Aardklop Festival and participate in it, as well as the specific festival activities they enjoy most. The research objectives of this article were:

- To construct the push and pull factors relevant in the decision-making process of attending arts festivals
- To identify the dimensions or domains of push and pull factors that can be applied to arts festivals
- To identify the most and least important push and pull factors likely to motivate local residents to participate in the arts festival
- To identify whether push and pull factors differ with respect to low and high socio-economic areas, male and female groups and various age groups.

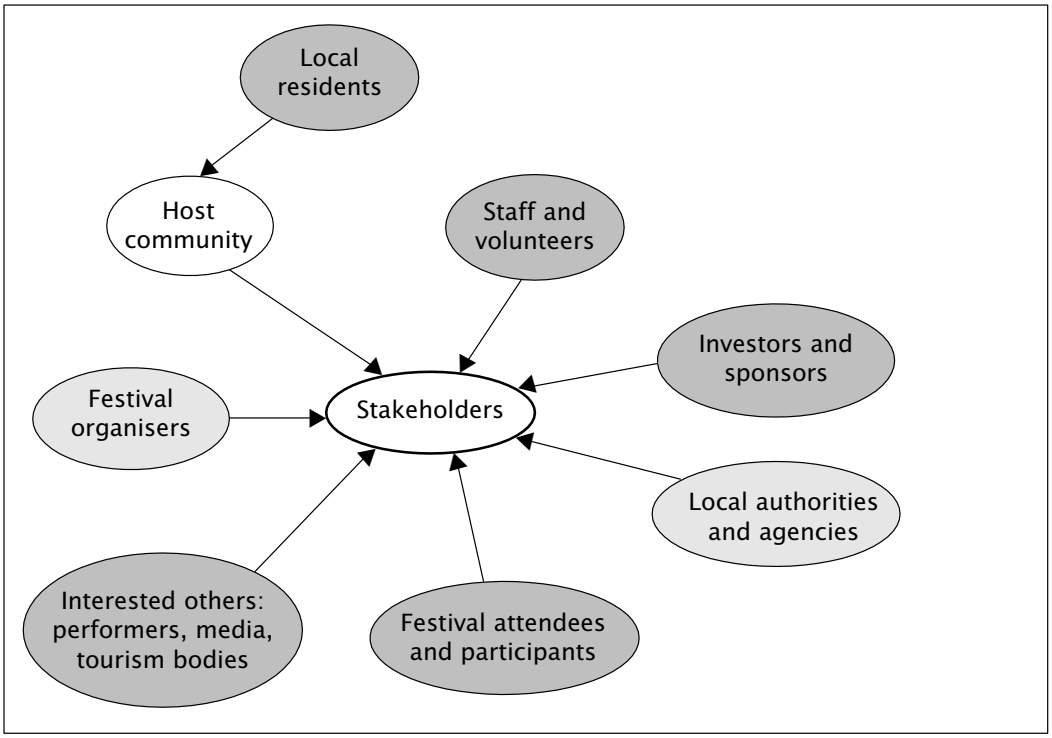
This article is organised in the following manner: this introduction is followed by a literature review and the research methodology, which includes methods of data generation and collection as well as data analysis and interpretation. Thereafter, the findings are presented, analysed and discussed, conclusions are reached and recommendations for implementation and future research are made.

LITERATURE REVIEW

There is general agreement in the tourism literature that a range of stakeholders is involved in festivals and that their needs and objectives should be balanced (Hughes 2000; Getz 1997). One of these, the host community, appears to be a core stakeholder (Fredline & Faulkner 2002: 115). The host community may include local residents, traders, lobby groups and public authorities, such as the local council and the transport, police, fire and ambulance services. The organisers of the festival are aware of the need to research the factors influencing the sustainability of the festival, but have so far downplayed the role of the host community and more specifically that of local residents as an integral element in the future success of the festival (Van Zyl 2002).

Various studies (Allen, Harris, Jago & Veal 2000; Fredline & Faulkner 2002; Bowdin, McDonnell, Allen & O'Toole 2001; Getz 1997) claim that local residents in the host community are significant stakeholders with respect to the continuation of

the festival. If members of the host community feel that the festival does not enhance their lifestyle or that it impinges on their quality of life, they may react negatively, thereby jeopardising the sustainability of the festival (Getz 1997; Gorney & Busser 1996; Delamere & Hinch 1994). The various stakeholders are shown in Figure 1, with local residents added to the original model owing to their important role in the sustainability of the festival (Fredline & Faulkner 2002; Van Zyl 2002).



Source: adapted from Douglas et al. 2001: 372; Getz 1997: 95

Figure 1: Event stakeholders

Even a small dissatisfied group in the host community could threaten the continuation of the festival. The management of the Aardklop Festival asserts that approximately 15% of the host community is unhappy about hosting the event in Potchefstroom (Van Zyl 2002). Ignoring research in this regard might jeopardise the sustainability of the festival, as little is known about this group. Getz (1997) notes that festival attendance is usually dominated by local residents of the host community, with tourists forming an important existing market or a potential market segment. An Aardklop National Arts Festival Impact Study conducted by Scribe Communications, North-West Province (2001) indicated that the largest single segment, almost 30%, attending the festival comprised local residents of Potchefstroom.

The host community plays a significant role in the staging and hosting of festivals, as this community is perceived as being the binding factor, performing

multiple roles. The multiple roles of the host community refer to the fact that they can either be spenders, marketers, caterers, hosts, or the audiences at the festival (Douglas, Douglas & Derrett 2001: 359; Hughes 2000: 93). Preliminary research revealed that most studies on perceptions emphasise the tourist (festival visitor) rather than the permanent residents of the area where tourism (such as an arts festival) takes place (Belisle & Hoy 1980: 84). However, Getz (1997) notes that if there were no host community, there could be no festival. The study on which this article is based focused on the host community (local residents) and is presented as a scenario. The sample drawn included only individuals residing in the arts festival scenario area, demarcated by the Municipal Demarcation Board (2003) within the municipal boundaries of Potchefstroom as NW402 (Potchefstroom Local Municipality). As the host community may influence the sustainability of the next festival, it is crucial to understand what motivates (pushes and pulls) these people to attend and to participate in the festival.

The concept of push and pull factors forms the basis of travel motivation (Hughes 2000: 36). These two theories are widely acknowledged in the tourism literature, but push factors are more recorded than pull factors in a festival and event context. Push factors deal with an attendee's motivations to visit a festival and refer to the socio-psychological benefits that the facilities, attractions and people involved in a festival offer (Goossens 2000; Botha 1998; Crompton 1992; Iso-Ahola 1980; Crompton 1977; Dann 1977; Maslow 1954). These factors refer to the forces arising internally in the individual and externally from the individual's social context (World Tourism Organisation 1999). The forces are intangible and origin-related, and motivate or create a desire to satisfy a need (Botha, Crompton & Kim 1999; Botha 1998; Uysal & Hagan 1993; Lundberg 1990; Dann 1981; Crompton 1979; Dann 1977). There seems to be general agreement in the tourism literature that push factors are essentially psychological motives (Botha et al. 1999; Botha 1998). For arts festival participants, some push factors may include a need for escapism, socialisation, relaxation, prestige, nostalgia, atmosphere, family togetherness or a desire to learn (Douglas et al. 2001; Formica & Uysal 1998).

Various authors (Getz 1997; Mohr et al. 1993; Uysal et al. 1993) have documented the push factors relevant in the decision-making process of attending festivals, which are summarised as:

- Family togetherness: seeking the opportunity so that the family can do something together and to bring the family together
- Socialisation: being with friends, people who are enjoying themselves and people who enjoy the same things
- Escape: getting away from the usual demands of life and having a change from daily routine

- Event novelty: experiencing new and different things and/or attending a festival that is unique
- Excitement and thrills: doing something because it is stimulating and exciting
- Community pride: the sense of belonging that the residents of a community feel is an important component of their quality of life
- Self-esteem: an individual's understanding of the self-concept plays a role because the individual needs to feel worthy as a person in order to gain confidence and participate in the festival or other activities.

Pull factors refer to the tangible attributes that a specific tourist destination offers, such as sunny weather, restaurants and artists (Hughes 2000). These factors relate to the features of a destination (or festival) that are likely to attract people or attendees (Goossens 2000; World Tourism Organisation 1999). Similarly, it is the motivational factors that have a drawing power or attractiveness that attendees perceive (Kim & Lee 2002; Botha et al. 1999; Botha 1998; Uysal & Hagan 1993; Crompton, Fakeye & Lue 1992; Iso-Ahola 1980; Crompton 1979; Chon 1989; Dann 1977). Pull factors are mainly recorded on tourist destinations as there is limited research regarding pull factors in the festival and event context.

For arts festival participants, the pull factors relevant to the decision-making process may include the following (Raybould 1998; Crompton & McKay 1997; Schneider & Backman 1996):

- Entertainment: the different types of activites and music, shows, drama, opera and arts and craft stalls offered at the festival
- Food and beverages: the variety and good quality of food and beverages offered at a festival
- Information and marketing: sufficient information about venues and time slots of performances and activites at the festival
- Transport and accessibility: the ease of travel and good transport to festival venues, as well as the parking facilities at the venues.

In summary, these push and pull factors give local residents the incentive or predisposition that motivates their attendance at and participation in the festival. Marketers, management and aspirant festival planners can gain great insight into what attracts local residents and motivates their participation by understanding the importance of arts festivals and the contribution attendees can make to the continuation of the festival.

METHODOLOGY

Primary data were gathered from the Aardklop Festival in order to determine which push and pull factors motivate local residents to attend the festival. This study is

scenario-based, and the Aardklop Festival is presented as a scenario. Scenario-based studies are typically used in cases where uncertainties in possible future outcomes need to be determined (Handy 1996). Based on the trajectory routes of a festival, a scenario is used. The scenario refers to the Aardklop National Arts Festival held annually in the North-West Province in the town of Potchefstroom. This festival started in 1998 to meet the need for an arts festival in the northern part of South Africa. The festival is held for five days in September. An estimated 130 000 people visit the festival each year. Several main sponsors are involved, and the festival programme includes the genres of classical music, theatre, children's and street theatre, dance, cabaret, rock, jazz, literature and visual arts. The productions and shows are held at various venues throughout the town. Ample parking is available at the venues. There are various food and beverage outlets in the area as well as temporary food stalls and a flea market. The name of the festival has a distinctive meaning. The first part of the Afrikaans word *aardklop* (*aard*), means 'earth' and has the connotation of the belonging feeling of South Africans, as they are people of the soil and earth. The second part, *klop*, means 'beat' and refers to the pulsating rhythm of the music and arts at the festival.

The survey population for this study was selected from a group of people attending festivals and residing in the scenario area in Potchefstroom. The sample element included individual members residing in the scenario area who had attended at least one of the festivals, either in 2001 or in any of the previous years. The sample drawn included only individuals residing in the arts festival scenario area, demarcated by the Municipal Demarcation Board (2003) within the municipal boundaries of Potchefstroom as NW402 (Potchefstroom Local Municipality). The scenario area included a group of people, who might be participants (meaning performers), special interest groups related to the event theme, known users of related events, repeat visitors, tourists and potential tourists. In addition, the group might include individuals from any race or colour residing in the demarcated scenario area. The sample unit referred to households in the survey area of Potchefstroom. The survey was conducted in 2002.

To determine the sampling frame, all the residential areas were identified according to the demarcated area NW402 (Potchefstroom Local Municipality). A name list of all the typical residential areas was sent to ten independent local residents of Potchefstroom, selected randomly from the scenario area's telephone directory. Each had to rank the areas (based on type of dwelling) from the higher to lower socio-economic areas. All the higher socio-economic areas were written on separate pieces of paper, which were put into a hat. Two areas were randomly drawn from the hat to represent the higher socio-economic areas, and the same procedure was followed for the lower socio-economic areas.

A scenario-based sample was required for the current research. As the study had to determine which push and pull factors would drive local residents to attend, a

combination of non-probability sampling methods was used. Non-probability sampling methods also yield good estimates of the characteristics of the population (Malhotra 2004: 322). These samples usually involve personal judgement in the selection process (Churchill & Iacobucci 2002: 454). A judgement sample is defined as one in which the researcher attempts to draw a representative sample of the population by using a judgemental selection procedure (Malhotra 2004: 322). A judgement sample was drawn for the study, based on the following criteria:

- Select only individuals residing in the arts festival scenario area as demarcated within the area NW402
- Draw individuals from three different age groups, namely 18–30, 31–45 and 46 years and older to ensure that all age groups typically present at arts festivals would be represented
- Include both males and females in a 50:50 ratio
- Include only individuals in the Living Standards Measure (LSM) groups 6, 7, 8, 9 and 10, but mainly LSM groups 7–10 (Martins 1998: 40)
- Select individuals who understand the language, either English or Afrikaans, used in the questionnaire. This would probably include people who would attend such a festival, as the main languages at the festival are Afrikaans and/or English
- Select only repeat attendees, using a screening question, to ensure that a respondent had previously attended a festival.

Another non-probability sampling method, namely interlocking quota sampling, was also used. This is used to improve the representativeness of each group. The interlocking quota sample was constructed with equal numbers of respondents from the high and lower socio-economic areas and equal representation of men and women in the three age groups (18–30 years, 31–45 years and 46 years and older).

The study does not claim to have drawn a representative sample of the population. The sample size of 120 used in the study was a scenario-based sample using the judgement of an expert researcher in the field. However, for the purposes of this study, the Census 2001 statistics for Potchefstroom were used (Statistics South Africa 2001). The selected sampling procedure for this study was based on the guidelines of Krejcie & Morgan (1970: 608), which state that for a population N of 100 000, the recommended sample size S is 384. For the present study, the total average population (N) in the scenario was 192 174 residents (Statistics South Africa 2001), so the recommended sample size (S) of 120 seemed appropriate as it is scenario-based.

A structured self-completion questionnaire was designed to explore the objectives of the study. The questionnaire comprised two sections. Section 1 consisted of initial screening questions to ensure that respondents met the criteria used in the study, as well as certain behavioural questions on festival attendance. This part included

certain demographic information as stated in the interlocking quota. Section 2 of the questionnaire consisted of the push and pull factors as well as the festival activities offered at the festival. Section 2.1 of the questionnaire consisted of 26 push factor items on a Likert-type scale, asking each respondent to indicate how important each statement (push factor) was in his/her decision whether or not to take part in the festival. The items used for measuring push factors were derived from similar festival research done worldwide. The development and application of the motivation scale are well documented in published research. The question items were therefore not newly developed, but based on research conducted by various authors (Kim, Uysal & Chen 2002; Hanqin & Lam 1998; Raybould 1998; Crompton & McKay 1997; Formica & Uysal 1996; Scheinder & Backman 1996; Backman et al. 1995; Mohr et al. 1993; Uysal et al. 1993). The items referred to the benefits respondents might gain from attending the festival. The list of 26 push factor items was included in the questionnaire that respondents had to complete (see Table 1). Each of these was grouped into six domains or dimensions: family togetherness, socialisation, escape, event novelty, community pride and self-esteem.

Similarly, Section 2.2 of the questionnaire consisted of a set of 22 pull factor items on a Likert-type scale to measure the respondents' ratings of the entertainment and attractions offered at the Aardklop Festival. The items used for measuring pull factors were derived from the wider tourism literature as well as the sources acknowledged in the tourism literature (Hanqin & Lam 1998; Raybould 1998; Crompton & McKay 1997; Getz 1997; Schneider & Backman 1996). The list of 22 pull factor items was included in the questionnaire that respondents had to complete (see Table 3). Each of these was grouped into four domains or dimensions: entertainment, food and beverages, information and marketing, and transport. Section 2.3 of the questionnaire consisted of a list of all the different festival activities (13 as specified by the marketing brochures on the Aardklop Festival) on a Likert-type scale to supplement the pull factor section (see Table 7). Each of these was grouped into three domains or dimensions: performances, music and arts.

The author made sure that the respondents in the pre-test were similar to those included in the actual survey in terms of their familiarity with arts festivals. The pre-test took place during May 2002. The questionnaire was designed and pre-tested on ten respondents in the demarcated scenario area. Only minor modifications were made after the pilot stage.

A structured self-completion questionnaire was used for collecting data. The fieldworkers first asked the screening questions and then assisted respondents where necessary with the completion of the questionnaire. The completion of each questionnaire lasted approximately 30 to 40 minutes. The author briefed and trained the fieldworkers (who all had a background in tourism and previous experience with

data collection) in how to assist respondents to complete the questionnaires, if necessary. The fieldworkers were then each allocated a number of questionnaires to collect according to the quota.

The data were then coded, captured and cleaned. Thereafter the data were analysed in three basic steps:

- Firstly, a profile of the sample's festival attendance was obtained by means of descriptive statistics.
- Secondly, by using a factor analysis concurrently with the theory, certain push and pull factors were identified.
- Lastly, the different socio-economic areas, gender and age groups were scrutinised for these factors by means of analysis of variance techniques to determine whether there were any differences between the push and pull factors motivating certain groups of respondents in the sample.

FINDINGS

Push factors

The push factors used are shown in Table 1. The alphas for these push factors ranged from 0.62 to 0.88. They all exceed Nunnally's (1978) 0.60 minimum criterion, and most of them are high. The overall Cronbach alpha is 0.922. The internal consistency was calculated for each factor formed, and each showed a relatively high reliability value (high Cronbach's alpha values). Only the family togetherness item had a slightly lower value (0.62), though still showing satisfactory reliability. This might reflect the fact that the scales comprised only three items.

Table 2 gives the descriptive statistics of the push factors. Although all the push factors seemed to be about equally important, with the exception of self-esteem with a mean score of 3.10, family togetherness seemed relatively more important (mean of 4.20) and escape relatively less important (mean of 3.91). The high ratings of the key items of family togetherness, spending time with significant others (mean of 4.29), interacting with family and friends (mean of 4.34) and having the family do something together (mean of 3.98) indicate the importance that respondents attached to them. Most of the items were evenly distributed in all the domains, indicating that for many respondents, all the motivators were about equally important as push factors.

Pull factors

The individual items indicated under each factor did not fully correspond with expectations, and the final factors formed, as shown in Table 3, were based on a

Table 1: Reliability of and items in each push factor

	Family togetherness	Socialisation	Escape	Event novelty	Community pride	Self-esteem
Items used to construct a factor	1 Spending time with significant others	2 Being with people who enjoy the same things I do	6 The urge to get away from daily routine	4 I enjoy special events	19 Residents' pride and community spirit	9 Doing something that impresses others
	14 Interacting with my family and friends	3 Meeting new people, building new relationships	11 Feeling free	10 Experiencing new and different things	20 Builds a community spirit and makes people feel good	13 A feeling of accomplishment
	24 Having the family do something together	5 I enjoy seeing the other people at the festival	18 Giving my mind a rest	8 Atmosphere at festival		16 Increasing my feeling of self-worth
		7 I enjoy festival crowds	21 Feeling like a child again	15 Festival is stimulating and exciting		
		12 Enjoying the company of the people who came with me	25 Relief from stress and tension	17 Satisfying my curiosity		
			26 Desire for change from everyday life	22 I've been here before and had a good time		
				23 It sounds like fun		
Chronbach alpha	**0.62**	**0.82**	**0.81**	**0.84**	**0.88**	**0.71**

Total reliability Cronbach alpha for Aardklop instrument: 0.922

Table 2: Descriptive statistics of the push factors (N = 120)

Push factors	Mean	Std deviation	Items
Family togetherness	4.20*	0.667	1, 14, 24
Socialisation	4.12	0.725	2, 3, 5, 7,12
Escape	3.91	0.773	6,11, 18, 21, 25, 26
Event novelty	4.16	0.583	4, 8, 10, 15, 17, 22, 23
Community pride	4.13	0.854	19, 20
Self-esteem	3.10	0.944	9, 13, 16
Total scale	3.98	0.583	

* The scale indicates 5 = Very important and 1 = Very unimportant

combination of theory (Kim et al. 2002; Raybould 1998; Crompton & McKay 1997; Getz 1997; Schneider & Backman 1996; Uysal et al. 1993) and the results of the factor analysis.

Table 3: Reliability of and items in each pull factor

	Entertainment domain	Food and beverages	Information and marketing	Transport
Items used to construct a factor	1 Enjoy the music/ shows/drama/opera	3 The quality and originality of food at stalls	12 Sufficient information about activities at festival	13 Good transport services to venues
	2 The variety of arts and crafts at stalls	4 Sufficient facilities to sit down while browsing	21 Quality of marketing material prior to festival	14 Good arrangements for parking cars
	6 Free entertainment e.g. music, mime shows	5 Variety of restaurants in the area		20 Safety and security
	7 Meeting celebrities	10 Enjoy the food		
	8 Activities for children	16 High quality of service		
	9 High quality of arts and crafts at the stalls	17 Friendly employees		
	11 High quality of music/shows/drama opera	19 Food outlets that are value for money		
	15 Wide variety of activities and entertainment			
	18 New arts and crafts at stalls			
	22 More things to do at night			
Chronbach alpha	**0.76**	**0.79**	**0.74**	**0.74**

Total reliability Cronbach alpha for Aardklop instrument: 0.889

Cronbach alphas were done on each of the item scales, and all the factors showed a satisfactorily high internal consistency, as all were above 0.7. The overall Cronbach alpha is 0.889.

Table 4: Descriptive statistics of the pull factors (N = 120)

Pull factors	Mean*	Std deviation	Items
Entertainment	4.10	0.533	1,2,6,7,8,9,11,15,18,22
Food and beverages	4.17	0.590	3,4,5,10,16,17,19
Information and marketing	4.21	0.774	12,21
Transport	3.94	0.935	13,14,20
Total scale	4.17	0.514	

* The scale indicates 5 = Very important and 1 = Very unimportant

Table 4 indicates the descriptive statistics of the pull factors. The information and marketing and food and beverages domains seem to be the strongest pull factors, with mean scores of 4.21 and 4.17 respectively. The key items of information and marketing, namely sufficient information about activities at festival (mean of 4.17) and quality of marketing material prior to festival (mean of 4.45) had the highest single score as pull factors. Here, too, most of the items were equally distributed in all four domains, indicating that they were all of approximately equal importance.

As the selected age categories did not provide enough significant differences, an alternative age category was used in interpreting the findings. Potchefstroom has a large university, and the 18–30 year category may have been too wide, reflecting the high representation of students in Potchefstroom. Consequently, an alternative age classification was used. Table 5 shows the mean importance of the push factors for the alternative age groups.

There were significant differences between the alternative groups 2 (26–35 years) and 3 (36+ years) with respect to the importance of family togetherness as a push factor. The 36+ age group rated this factor as of greater importance, perhaps because the older age groups placed greater emphasis on doing things together with their families and friends. The assumption can also be made that at a later stage in the lives of the younger group, they would probably assign greater value to spending time with significant others and interacting with family and friends.

The respondents in the alternative 18–25 year group indicated that they rated socialisation and escape as more important push factors than the respondents in the alternative 26–35 year group. The younger group had a greater desire to meet new people and build new relationships as well as enjoy feeling free and like a child again than the slightly older alternative groups. Event novelty was more important to the alternative 18–25 year age group than to both the 26–35 and 36+ alternative age groups. Once again, items such as experiencing new and different things and satisfying curiosity may appeal more to respondents in the younger age group. The alternative 26–35 and 36+ age groups did not differ significantly. Community pride was more important to the 36+ group than to the 26–35 age group. As people grow

Table 5: Mean importance of the push factors for the alternative age groups; analysis of variance (n = 40 for each age group)

	Age groups	*N*	Mean*	Std deviation	F-value	*p*-value	Sheffé results
Family togetherness	18–25 (1)	37	4.26	0.498	4.614	0.012	(2,3)
	26–35 (2)	21	3.86	0.757			
	36+ (3)	40	4.35	0.623			
Socialisation	18–25	37	4.39	0.520	5.376	0.006	(1,2)
	26–35	21	3.76	0.942			
	36+	40	4.17	0.710			
Escape	18–25	37	4.18	0.566	5.274	0.007	(1,2)
	26–35	21	3.53	0.886			
	36+	40	3.96	0.777			
Event novelty	18–25	37	4.37	0.386	7.018	0.001	(1,2)(1,3)
	26–35	21	3.78	0.728			
	36+	40	4.18	0.624			
Community pride	18–25	37	4.14	0.839	3.836	0.025	(2,3)
	26–35	21	3.64	1.142			
	36+	40	4.28	0.688			
Self-esteem	18–25	37	3.29	0.790	2.588	0.080	
	26–35	21	2.73	0.880			
	36+	40	3.22	1.092			

* The scale indicates 5 = Very important and 1 = Very unimportant

older, they tend to feel more attached to the community and consequently give a higher rating to items such as community pride and community spirit (Hughes 2000: 62). The alternative 26–35 age group invariably had a lower score, as they gave the highest rating to event novelty. These respondents may focus more on their careers and enjoy the atmosphere at special events. They also display greater curiosity, as they gave a high rating to new experiences.

Table 6 indicates the mean importance of the pull factors for the alternative age groups. The younger groups are significantly more attracted to (pulled by) the entertainment at the Aardklop Festival than the 26–35 year group. The items in this domain, such as meeting celebrities, the music, shows, drama, free entertainment and more things to do at night, probably appeal more to this group. However, the information and marketing item was more important to the alternative 36+ group than to the alternative 26–35 year group. The older group reported taking greater care to plan the time spent at the festival, as these respondents may have other occupational or family commitments. Therefore, sufficient information about venues and times may in fact enhance the overall attendance and level of satisfaction of this segment. The 26–35 year group prefer accessing information individually via the

Table 6: Mean importance of the pull factors for the alternative age groups; analysis of variance (n = 40 for each age group)

	Age groups	*N*	Mean*	Std deviation	F-value	*p*-value	Sheffé results
Entertainment	18–25	37	4.28	0.509	4.813	0.010	(1,2)
	26–35	21	3.84	0.529			
	36+	40	4.07	0.525			
Food and beverages	18–25	37	4.29	0.531	0.871	0.422	
	26–35	21	4.13	0.577			
	36+	40	4.11	0.684			
Information and marketing	18–25	37	4.04	0.900	3.420	0.037	(2,3)
	26–35	21	3.95	0.805			
	36+	40	4.41	0.576			
Transport	18–25	37	3.98	1.036	2.161	0.121	
	26–35	21	3.60	0.867			
	36+	40	4.12	0.832			

* The scale indicates 5 = Very important and 1 = Very unimportant

Internet, although the older group (36+) is possibly less proficient in using this marketing medium. The older group may prefer accessing information via traditional media (such as newspapers or brochures), explaining these respondents' higher score for this pull factor.

Festival activities (pull factors)

The variety of festival activities was measured separately to gain a better understanding of their value as pull factors. A three-factor solution was extracted based on a combination of theories (Hughes 2000), and the results of the factor analysis are shown in Table 7.

The performances (Cronbach alpha of 0.72) and music (Cronbach alpha of 0.75) factors show a high internal consistency as they have Cronbach alpha values above 0.7, whereas the arts have a slightly lower Cronbach alpha value (0.63), although this is still considered satisfactory. The lower value might have resulted from there being only three items in the scale. However, the overall Cronbach alpha is 0.764. The descriptive statistics of the various Aardklop Festival activities preferred by respondents are illustrated in Table 8.

Of all the domains, the biggest entertainment pull factors are music (mean of 3.51), arts (mean of 3.48) and then performances (mean of 2.92). The arts – with key items such as arts and craft stalls (mean of 4.08) and visual art, exhibitions (mean of 3.92) had the highest single factor. The interest in the arts is consistent with the fact that this is specifically an arts festival and would attract (pull) people interested in the arts. Music also plays a large role in the Aardklop Festival, with key items such as

Table 7: Reliability of and items in each Aardklop Festival activity factor

	Performances	Music	Arts
Items used to construct a factor	1 Performing arts	7 Classical music	5 Discourse (discussions)
	2 Dance and movement	8 Choir and ensemble music	6 Visual art, exhibitions
	3 Poetry	9 Cabaret and music	13 Arts and crafts stalls
	4 Children's theatre	10 Rock and jazz music	
	11 Experimental movie festival		
	12 Only the free entertainment		
Chronbach alpha	**0.72**	**0.75**	**0.63**

Total reliability Cronbach alpha for Aardklop instrument: 0.764

Table 8: Descriptive statistics of the Aardklop Festival activities preferred by the respondents (N = 120)

Festival activities	Mean*	Std deviation	Items
Performances	2.92	0.697	1, 2, 3, 4, 11, 12
Music	3.51	0.788	7, 8, 9, 10
Arts	3.48	0.815	5, 6, 13
Total scale	**3.57**	**0.607**	

* The scale indicates 5 = Very Important and 1 = Very unimportant

classical music (mean of 3.57), choir and ensemble music (mean of 3.41), cabaret and music (mean of 3.71) and rock and jazz music (mean of 3.34).

CONCLUSION

The purpose of this article was to identify and investigate the motivational factors that might drive and motivate local residents of Potchefstroom to attend and participate in the festival. Based on the findings, the following conclusions can be drawn from survey respondents:

- Family togetherness and event novelty were the strongest overall push factors for attending the festival. The literature on attendance motivators for local festivals has

consistently reported family togetherness, socialisation, event novelty (excitement and thrills) and escape as the crucial factors inducing people to visit a festival (Backman et al. 1995; Mohr et al. 1993; Uysal et al. 1993; Ralston & Crompton 1988). The findings of the present research concur with those of Mohr et al. (1996), Uysal et al. (1993) and Schneider & Backman (1996). Family togetherness and socialisation are two of the most important motivational factors found in this study and also in the studies of Schneider & Backman (1996) and Mohr et al. (1993). The escape dimension ranks relatively lower, respectively fourth and fifth in order of importance in each of these studies, as well as in the present study, but the order of importance of each dimension differs slightly. This suggests that different motivational dimensions are important to respondents when they attend different festivals. Event novelty is a more important dimension in both the current study and the study by Schneider & Backman (1996).

- The single most important push item indicated by all the respondents was the atmosphere at the festival, and the least important was the item of doing something that impresses others.
- The present study found that information and marketing was the most important overall pull factor. The food and beverages factor was ranked second and entertainment a close third. The research findings by Backman et al. (1995) and Uysal et al. (1993) emphasise the importance of information and marketing for attendees, whereas Formica & Uysal (1996) reveal that the major drawing power of the event is the event itself, with entertainment also being a strong motivating factor. These studies therefore confirm the findings of the present research. The findings also suggest that, to attract local residents, the promotional material should show families having fun together, opportunities for excitement as well as individuals relaxing. The promotional material should also inform individuals of the activities available in the local area. Getz (1997: 209) notes that food and beverage sales are an essential service at most events and may potentially add a targeted benefit to attract specific market segments and contribute to being a major source of revenue. These findings of the present research support Getz's findings.
- The single most important pull factor item indicated by all respondents was the wide variety of activities and entertainment, and the least important was the item of meeting celebrities.
- Of the three festival activities (music, arts and performances) available at the festival, music is rated as the most important pull factor (see Table 8). The arts category was rated second, and the performances category was rated third in importance. Classical music, choir and ensemble music, cabaret and music, and rock and jazz music were ranked as the most sought-after festival activities at the Aardklop Festival.

- The single item of festival activity most enjoyed by respondents was arts and craft stalls, and the single least important item of festival activity was discourse (discussions).
- An alternative age grouping was devised, and this yielded more significant results for the push and pull factors (see Tables 5 and 6).
- There is a significant difference in the way that respondents of different ages are attracted to entertainment. The 18–30 year group appeared to be more strongly motivated by entertainment than the two older groups of 31–45 and 46+ years. The items that appealed most to these older groups were the free entertainment, wide variety of activities and entertainment and high quality of arts and crafts at the stalls, as well as more things to do at night.
- An alternative age grouping was devised, and results that are more significant were obtained for these groups' push factors. The younger 18–25 year group attended the festival mostly for socialisation, escape and event novelty, while the group older than 36 years attended because of family togetherness and community pride. This finding is logical in view of their current lifecycle status.
- An alternative age grouping was devised, and results that are more significant were obtained for these groups' pull factors. The younger groups (18–25) are significantly more attracted to (pulled by) the entertainment at the Aardklop Festival than the 26–35 year group. The item of information and marketing was more important to the alternative 36+ group than to the alternative 26–35 year group. The older group reported taking greater care to plan their time spent at the festival, as these respondents might have other occupational or family commitments. Therefore, sufficient information about venues and times may enhance the overall attendance and level of satisfaction of this segment.

Based on the findings of the present research, the following recommendations are made:

- The organisers of the Aardklop Festival should incorporate dimensions of event behaviour (family togetherness) into their promotional and marketing strategies. For example, promotional packages could emphasise family events as a theme, along with an identified activity cluster (for example, the whole family might enjoy open concerts, exhibits, stalls, and food and beverages, as well as local art; children might enjoy children's theatre; family and friends might enjoy food and beverages).
- Information and marketing brochures should be original and informative since a lack of signage might confuse or frustrate attendees, and could have a negative impact on future festivals.

- As the food and beverages item is such an important pull factor for the festival, this may present an opportunity for the management of the Aardklop Festival to capitalise on and provide their own in-house catering for the festival.
- It is recommended that the organisers of the Aardklop Festival do further market research into music as a festival activity, as it is the most sought-after activity offered at the festival, and the performances category should be given more attention in future.
- It is recommended that local festival and event organisers and managers incorporate most of the event motivations developed in the study into their marketing studies.
- It is recommended that further research on push and pull factors be applied to a wider audience or area to include other similar types of festivals in South Africa. Other researchers are invited to contribute theory and research results on similar festivals in South Africa and to compare the various festivals. Further testing of these push and pull domains should assess their utility across different types of festivals.
- Further research on the development of the South African festivals and events industry are also recommended, as well as on the social and cultural impacts of festivals and events.

This article attempts to contribute to the understanding of what motivates local residents to attend an arts festival and indicates which festival activities local residents enjoyed most during either of the previous two years (2000 and 2001) or during both. It also contributes to an acknowledgement of the importance of local residents in the host community and the contribution they make to the sustainability of a festival in the future. It is hoped that the organisers of the festival take note of the need to research the role of the host community, and more specifically that of local residents, as an integral element in the future success of the festival. The article therefore helps to overcome the limited research on festivals in South Africa and in this way proves valuable to the expanding festival and events industry. In conclusion, by studying the findings of this article, festival organisers should be able to establish what motivates the local residents of Potchefstroom to attend and participate in the Aardklop Festival, providing an opportunity for the festival to survive in this fast-growing industry.

REFERENCES

Aardklop National Arts Festival Impact Study. 2001. An opinion poll. Potchefstroom, North-West Province: Scribe Communications.

Allen, J., Harris, R., Jago, L.K. & Veal, A.J. 2000. 'Community perceptions of the impacts of events', In *Events Beyond 2000: Setting the Agenda*. Proceedings of a conference on event evaluation, research and education, Australian Centre for Event Management, School of Leisure, Sport and Tourism, University of Technology, Sydney.

Backman, K.F., Backman, S.J., Uysal, M. & Sunshine, K.M. 1995. 'Event tourism: an examination of motivations and activities', *Festival Management and Event Tourism*, 3(1): 15–24.

Belisle, F.J. & Hoy, D.R. 1980. 'The perceived impact of tourism by residents: a case study in Santa Marta, Columbia', *Annals of Tourism Research*, 11(1): 83–101.

Botha, C. 1998. The efficacy of a tourist destination positioning model. Unpublished doctoral thesis, Potchefstroom University for CHE, Potchefstroom.

Botha, C., Crompton, J.L. & Kim, S. 1999. 'Developing a revised competitive position for Sun/Lost City, South Africa', *Journal of Travel Research,* 37(4): 341–352.

Bowdin, G.A.J., McDonnell, I., Allen, J. & O'Toole, W. 2001. *Events Management*. Oxford: Butterworth-Heinemann.

Chon, K. 1989. 'Understanding recreational traveller's motivation, attitude and satisfaction', *Tourist Review*, 44(1): 3–7.

Churchill, G.A. & Iacobucci, D. 2002. *Marketing Research: Methodological Foundations*, 8th edition. London: Harcourt.

Crompton, J.L. 1977. A systems model of the tourist's destination selecting decision process with particular reference to the role of image and perceived constraints. Unpublished doctoral dissertation, Texas A&M University, Texas.

Crompton, J.L. 1979. 'Motivations for pleasure vacation', *Annals of Tourism Research*, 6(4): 408–424.

Crompton, J.L. 1992. 'Structure of vacation destination choice sets', *Annals of Tourism Research*, 19(3): 420–432.

Crompton, J.L. & McKay, S.L. 1997. Motives of visitors attending festival events, *Annals of Tourism Research*, 24(2): 425–439.

Crompton, J.L., Fakeye. P.C. & Lue, C-C. 1992. 'Positioning: the example of the lower Rio Grande Valley in the winter long stay destination market', *Journal of Travel Research*, 31(2): 20–25.

Dann, G.M.S. 1977. 'Anomic ego-enhancement and tourism', *Annals of Tourism Research*, 4(4): 184–193.

Dann, G.M.S. 1981. 'Tourism motivation: an appraisal', *Annals of Tourism Research*, 8(2): 187–219.

Delamere, T. & Hinch, T. 1994. 'Community festivals: understanding resident perspectives and priorities', In Murphy, P. (ed.), *Quality Management in Urban Tourism: Balancing Business and Environment*. Proceedings, University of Victoria.

Douglas, N., Douglas, N. & Derrett, R. 2001. *Special Interest Tourism*. Brisbane, Australia: John Wiley.

Du Plessis, M., Bouwer, I. & Uken, EA. 1990. Marketing potential of special occasions and festivals as well as theme marketing. Report. Cape Town: Cape Technikon.

Formica, S. & Uysal, M. 1996. 'A market segmentation of festival visitors: Umbria Jazz Festival in Italy', *Festival Management and Event Tourism*, 3(4): 175–182.

Formica, S. & Uysal, M. 1998. 'Market segmentation of an international cultural-historical event in Italy', *Journal of Travel Research*, 36(4): 16–24.

Fredline, E. & Faulkner, B. 2002. 'Residents' reactions to the staging of major motorsport events within their communities: a cluster analysis', *Event Management,* 7(2): 103–114.

Getz, D. 1997. *Event Management and Event Tourism*. New York: Cognizant Communication Corporation.

Goeldner, C.R., Ritchie, J.R.B. & McIntosh, R.W. 2000. *Tourism: Principles, Practices, Philosophies,* 8th edition. New York: John Wiley.

Gorney, S.M. & Busser, J.A. 1996. 'The effect of participation in a special event on importance and satisfaction with community life', *Festival Management and Event Tourism,* 3: 139–148.

Goossens, C. 2000. 'Tourism information and pleasure motivation', *Annals of Tourism Research*, 27(2): 301–321.

Hanqin, Z.Q. & Lam, T. 1998. 'An analysis of mainland Chinese visitors' motivations to visit Hong Kong', *Tourism Management*, 20(5): 587–594.

Handy, C.B. 1996. *Beyond Certainty: the Changing Worlds of Organisations*. London: Arrow Business.

Hughes, H. 2000. *Arts, Entertainment and Tourism.* Oxford: Butterworth-Heinemann.

Iso-Ahola, S.E. 1980. *The Social Psychology of Leisure and Recreation*. Dubuque: Wm.C. Brown Company.

Joseph, C.O. 2004. 'Volksblad-Kunstefees (Bloemfontein) 2004: an outsider's view', *South African Theatre Journal*, 18: 242–245.

Keyser, H. 1996. Market profile of the Oudtshoorn Arts Festival. Report. Cape Town: Cape Technikon (CAPTEC) Tourism Research Unit.

Kitshoff, H. 2004a. 'Klein Karoo Nasionale Kunstefees (KKNK): Oudtshoorn, 3–11 April 2004', *South African Theatre Journal*, 18: 237–241.

Kitshoff, H. 2004b. 'Claming cultural festivals: playing for power at the Klein Karoo Nasionale Kunstefees (KKNK)', *South African Theatre Journal*, 18: 65–81.

Kim, K., Uysal, M. & Chen, J.S. 2002. 'Festival visitor motivation from the organizers' point of view', *Event Management,* 7(2): 127–134.

Kim, S. & Lee, C. 2002. 'Push and pull relationships', *Annals of Tourism Research*, (29)1: 257–260.

Krejcie, R.V. & Morgan, D.W., D.W. 1970. 'Determining sample size for research activities', *Educational and Psychological Measurement*, 30: 607–610.

Lundberg, D.E. 1990. *The Tourist Business*. New York: Van Nostrand Reinhold.

Malhotra, N.K. 2004. *Marketing Research: an Applied Orientation,* 4th edition. Upper Saddle River, NJ: Pearson/Prentice Hall.

Martins, J.H. 1998. Income and expenditure patterns of households in the Cape Peninsula'. Bureau of Market Research, Report No. 250. Pretoria: University of South Africa Press.

Maslow, A.H. 1954. *Motivation and Personality.* New York: Harper & Row.

Mohr, K., Backman, K.F., Gahan, l.W. & Backman, S.J. 1993. 'An investigation of festival motivations and event satisfaction by visitor type', *Festival Management and Event Tourism*, 1(3): 89–97.

Municipal Demarcation Board. 2003. *Maps and Statistics*. [Online] Available at: www.demarcation.co.za.index.info. Accessed: 17 May 2003.

Nunnally, J.C. 1978. *Psychometric Theory,* 2nd edition. New York: McGraw Hill.

Raybould, M. 1998. 'Participant motivation in a remote fishing event', *Festival Management and Event Tourism*, 5(4): 231–241.

Ralston, L. & Crompton, J.L. 1988. Motivations, service quality and economic impact of visitors to the 1987 'Dickens on the strand' emerging from a mailback survey. Report No. 3, Galveston Historical Foundation.

Saayman, M. & Saayman, A. 2004. 'Economic impact of cultural events', *South African Journal of Economic and Management Sciences*, 7(4): 629–641.

Schneider, I. & Backman, S.J. 1996. 'Cross-cultural equivalence in festival motivations: a study in Jordan', *Festival Management and Event Tourism*, 4(3/4): 139–144.

Snowball, J.D. 2004. 'Interpreting economic impact study results: spending patterns, visitor numbers and festival aims', *South African Journal of Economics*, 72(5): 1075–1083.

Snowball, J.D. 2005. 'Art for the masses? Justification for the public support of the arts in developing countries – two arts festivals in South Africa', *Journal of Cultural Economics,* 29(2): 107.

Statistics South Africa. 2001. *Census 2001*: *Geography – Potchefstroom*. [Online] Available at: www.statssa.gov.za.html. Accessed: 27 November 2004.

Tassiopoulos, D. 2005. *Event Management: a Professional and Developmental Approach,* 2nd edition. Lansdowne: Juta Academic.

Uysal, M., Gahan, L. & Martin, B. 1993. 'An examination of event motivations: a case study', *Festival Management and Event Tourism*, 1(1): 5–10.

Uysal, M. & Hagan, L.A.R. 1993. 'Motivation of pleasure travel and tourism', In Khan, O., Olsen, M. & Var, T. (eds.), *VNR's Encyclopedia of Hospitality and Tourism*. New York: Van Nostrand Reinhold.

Van Heerden, A. 2003. The economic impact of the Aardklop National Arts Festival in Potchefstroom. Unpublished MCom dissertation, North-West University, Potchefstroom.

Van Zyl, C. 2005. 'Identifying situational inhibitors regarding the Aardklop National Arts Festival', *Southern African Business Review*, 9(2).

Van Zyl, G. 2002. Qualitative interview with managing director of the Aardklop Festival Executive Committee. 12 March 2002, Pretoria.

Witepski, L. 2002. 'Tourism – festivals: the show must go on', *Journal of Southern African Tourism,* 2(2): 52–53.

Williams, V.E. 1997. The economic impact of the arts: a case study of the wealth and employment attendant on the Grahamstown National Arts Festival. Unpublished MCom dissertation, Department of Economics and Economic History, Rhodes University, Grahamstown.

World Tourism Organisation. 1999. *International Tourism: a Global Perspective,* 2nd edition. Madrid, Spain: World Tourism Organisation.

Yeoman, I., Robertson, M., Ali-Knight, J., Drummond, S. & McMahon-Beattie, U. 2004. *Festival and Events Management: an International Arts and Culture Perspective*. Amsterdam: Elsevier Butterworth-Heinemann.

Guidelines for contributors to the *Southern African Business Review*

The *Southern African Business Review* is the research journal of the College of Economic and Management Sciences of the University of South Africa.

Mission

The aim of the *Southern African Business Review* is to serve as a vehicle for the publication and dissemination of research of a high standard in the fields of the economic and management sciences, including accountancy and related subjects.

Nature of contributions

Research contributions should conform to acceptable academic standards with regard to content, methodology and reference technique. Contributions may be on any of the following types of research:

- Empirical studies, using any acceptable research strategies (such as survey, case study, experiment, archival analysis or history)
- Theoretical studies aimed at advancing current theory or adapting theory to local conditions
- Theoretical studies aimed at reviewing and/or synthesising existing theory.

Note that only material that has not been published elsewhere will be considered for publication.

Guidelines for manuscripts

1. Every proposed article should address at least the following:
   (i) Introduction
   (ii) Purpose/objectives of the article
   (iii) Hypothesis/problem investigated
   (iv) Research strategy followed (where applicable)
   (v) Results (where applicable)
   (vi) Recommendations/conclusions
2. Articles should preferably not exceed 7 500 words or 25 A4 pages typed, using the font Times New Roman (12 point) and 1.5 line spacing. Authors should ensure that the contents of very short articles are substantial enough to warrant publication.
3. Tables, illustrations and figures should be placed on separate sheets and not included in the text. The editor reserves the right to refuse publication of any submission for which the artwork is not of an acceptable standard. The approximate position of tables, illustrations and figures should be clearly indicated in the manuscript, for example:

   Place Figure 1 approximately here

4. Since the *Southern African Business Review* follows a policy of blind peer review, the first page of the text proper should carry the title of the article, but not the name(s) of the author(s).
5. A separate page should carry the title of the article, its author(s) and relevant biographical information, including full name, academic title, current position and institution (where appropriate). Postal and e-mail addresses should also be provided.
6. The article should be preceded by a single paragraph abstract of the article, not exceeding 200 words. The abstract should not form part of the text.
7. The reference technique should be according to the Harvard method. For a practical example, see a recent issue of the *Southern African Business Review*. References in the main text should take the form of (Smith 1999: 145).

Submission and review process

1. Manuscripts for the review process should be submitted by e-mail in MS Word.
2. Manuscripts will be submitted to independent reviewers. A policy of double blind peer review is followed. The editor will make the final decision whether to publish an article.
3. If approved subject to revision, the manuscript will be returned to the author(s) who will make the necessary alternations/corrections. The final copy of the manuscript will then be returned to the editors. This copy should be submitted in MS Word by e-mail to the address below.
4. It is required that all authors have their draft articles reviewed for language proficiency before submitting them to the editors. Sometimes excellent submissions have to be drastically amended or even rejected because of linguistic ineptitude. The editors reserve the right to make minor editorial adjustments without consulting the author. The use of abbreviations should be avoided as far as possible.
5. Footnotes should be avoided. Endnotes may be used, and should be consecutively numbered and listed at the end of the text, before the list of references.
6. Page fees of R100 (excluding tax) per page are payable on the acceptance of the article. A non-refundable submission fee for 15 pages is payable on acceptance of articles. The author(s) will receive written acknowledgement of acceptance accompanied by an invoice for page fees.
7. Please supply a list of as many key words as possible for cataloguing purposes.

Submissions and correspondence to

The Editor: *Southern African Business Review*
Ms Erna Koekemoer
Bureau of Market Research
P.O. Box 392
Unisa 0003 South Africa
Tel: +27 12 429-3228/429-4710
Fax: +27 12 429-3170 (Please do not fax your submission to the editor)
E-mail: koekeem@unisa.ac.za