

Investigating antecedent factors to job performance: Contemporary evidence from government supply management professionals

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Purpose: The purpose of the study was to investigate the influence of transformational leadership, organisational citizenship behaviour and quality of work life on job performance amongst supply management professionals employed by the South African government.

Rationale: The depressed job performance of supply management professionals in the South African government presents an impetus to generate new empirical information on the subject in order to find solutions.

Methodology: A quantitative survey approach was followed using a sample of 264 supply management professionals employed in the South African government and were based in Gauteng Province. A Confirmatory Factor Analysis (CFA) was conducted to assess psychometric properties of the measurement instrument. Hypotheses were tested using Structural Equation Modelling (SEM).

Findings: Transformational leadership had positive and significant relationships with organisational citizenship behaviour and quality of work life. Quality of work life exerted a greater influence of job performance than organisational citizenship behaviour.

Value of research: The study provides current evidence of the influence of transformational leadership on organisational citizenship behaviour and quality of work life, as well as the influence of organisational citizenship behaviour and quality of work life on job performance amongst supply management professionals.

Conclusion: Transformational leadership has a positive influence on organisational citizenship behaviour and quality of work life amongst supply management professionals in the government. Both organisational citizenship behaviour and quality of work life exert a positive influence on the job performance of supply management professionals in the government. Future studies should be extended to other professional cohorts in both the private and the government sectors.

Introduction and background

The job performance of employees has metamorphosed into a topical issue in organisational management. This development could be attributed to the fact that organisational outcomes and successes are, to a large extent, determined by the performance of their human resources (Hedge, Borman & Lammelein 2006). At organisational level, determining factors that are important in stimulating employee job performance is very crucial in that managers may be able to deal with policies and practices affecting employees more effectively and efficiently in the fast-paced workplace environment of today (Penny & Joanne 2013). At both industry and national levels, the subject of job performance has significance to the economies of developing countries such as South Africa, whose productivity levels are partially determined by the aggregate job performance of individual employees in different industries throughout the entire country (Woratz 2012). This presents the need to develop an in-depth understanding of factors influencing job performance in organisations in the sense that, unless updated information on factors influencing job performance is known and understood, organisations will continue to be inundated with nagging employee performance problems that remain unresolved (Avalos 2007).

The critical skills list promulgated by the South African government (Department of Home Affairs 2014) includes supply management professionals (also known as supply chain practitioners). Supply management practitioners are professionals whose primary duties include various acts of identifying, acquiring and managing the products and/or resources needed to run a business or other organisation, such as physical goods, as well as information

and services (Reynolds & Thompson 2013). The inclusion of supply management practitioners in the critical skills list implies, firstly, that they are of strategic importance to the South African government and economy and, secondly, that there still remains a shortage of properly qualified and experienced supply management practitioners in the country. The 2015 Public Sector Supply Chain Management Review (National Treasury 2015) reports that as a result of the shortage of supply management practitioners in the South African government, the few individuals available in this profession are subjected to a number of work pressures, such as *inter alia* work overload, fatigue and work-related stress, which tend to negatively militate against their job performance. This presents the incentive to find possible driving factors influencing the job performance of supply management practitioners employed by the South African government. Given the strategic nature of the supply management profession to a developing economy such as South Africa, it is necessary to assess antecedent factors to the job performance of government supply management professionals, with an overall view to improve the effectiveness of procurement activities in government.

The primary objective of the present study was to investigate how the behaviour of those in the supply management profession, as well as the working environment under which they operate, influence their performance at work. To achieve this primary objective, the following four secondary objectives were formulated:

1. Establish the influence of transformational leadership on organisational citizenship behaviour.
2. Examine the influence of transformational leadership and quality of work life.
3. Determine the influence of organisational citizenship behaviours on job performance.
4. Determine the influence of quality of work life on job performance.

These four relationships were assessed from the perspective of supply management practitioners in the South African government. Although a number of previous studies (Cicei 2012; Cuyper & Witte 2010; Helmiatin, Sukiswo & Aji 2012; Humphrey 2012; Kent & Chelladurai 2013; Küçükbayrak 2010; Omolayo 2007; Ozer 2011; Singh & Moddasir 2011) have examined linkages between different combinations of the antecedent factors to job performance in various environments, two notable research gaps have been identified and still need to be addressed. Firstly, there is scant evidence of similar studies that have previously been conducted within the South African geospatial context. This is unexpected, given that South Africa is the second largest economy in Africa after Nigeria (*The Economist* 2014), which makes it worthy of attention in management and organisational research. Secondly, most of the prior studies conducted on similar topics disregarded supply management professionals as the source of data. This is again surprising, since the supply chain management profession has emerged as a strategic activity in organisations over the past two

decades, as acknowledged by Mafini and Omoruyi (2013). This study is intended to address these research gaps.

In order to realise the objectives of the study, this paper is partitioned as follows: the first section discusses literature related to the four factors presented in this study, whereafter the subsequent section directs focus to the theoretical framework and the formulation of hypotheses. The research methodology section will follow thereafter, which will be succeeded by the results as well as the discussion of the results and conclusions. The final sections of the paper discuss the limitations and implications for future research as well as managerial implications, respectively.

Review of related literature

This section briefly discusses literature focusing on the variables that were under consideration in this study. These are job performance, organisational citizenship behaviour, quality of work life and transformational leadership, respectively.

Job performance

In this study, job performance is considered to be those actions, behaviours and outcomes that individual employees engage in or bring about that contribute to the goals of the organisation (Rotundo & Sackett 2002). Job performance is influenced by three principal factors (Farh, Seo & Tesluk 2012; Kacmar *et al.* 2009), namely: declarative knowledge (knowledge about facts, principles and objects), procedural knowledge and skill (ability to implement declarative knowledge), and motivation (choice to expend effort, level of effort and persistence). In addition, general mental ability has been found to be one of the most important predictors of job performance (Schmidt & Hunter 1998). Earlier research by Welbourne, Johnson and Erez (1998) had led to the development of the Role-Based Performance Scale, which is widely acknowledged by various authors (e.g. Bray & Brawley 2002; Jawahar & Raghavendra 2011; Waddar & Aminabhavi 2012) as an authentic instrument for measuring the aforementioned predictors of job performance in the workplace. With reference to its outcomes, job performance has connections with a number of organisational outcomes that include customer service and product quality (Blignaut 2011), manager-employee relationships and employee turnover (Dalal & Hulin 2008), as well as job satisfaction (Bono & Judge 2003). Therefore, job performance appears to be multifaceted with regard to its antecedents and has a wide spectrum of applications in terms of its outcomes.

Organisational citizenship behaviour

For the purposes of this study, organisational citizenship behaviour is perceived as 'individual behaviour that is discretionary, not directly or explicitly recognised by the formal reward system and that, in the aggregate, promotes the effective functioning of the organisation' (Organ 1988:4). Organ's (1988) five-factor structure identifies five

dimensions – specifically, altruism, conscientiousness, gamesmanship (not complaining about trivial matters), courtesy and civic virtue (maintaining an awareness of matters that affect the organisation) – and is one of the most well-known organisational citizenship taxonomy amongst researchers. The elements listed in that taxonomy were translated by Spector, Bauer and Fox (2010) into a checklist of measuring organisational citizenship behaviours in the workplace, which is known as the ‘Organisational Citizenship Behaviour Checklist’. On the one end, predictors of organisational citizenship behaviour include job satisfaction (Podsakoff *et al.* 2000), perceptions of organisational justice (Organ, Podsakoff & MacKenzie 2006), organisational commitment and personality characteristics (Organ *et al.* 2006), task characteristics (Todd & Kent 2006) and leadership behaviour (LePine, Erez & Johnson 2002). On the other end, organisational citizenship behaviour has an influence on a number of organisational factors that include sales performance as well as operating efficiency (Nielsen, Hrivnak & Shaw 2009), customer satisfaction and loyalty (Hoseini, Karim & Soodi 2013), service and product quality (Bel & Simon 2002), recruitment and selection (Podsakoff *et al.* 2011), task performance and overall performance (Dalal 2005). Its overarching influence gives the impression that it is imperative for managers to cultivate organisational citizenship cultures in organisations if the positive outcomes are to be realised.

Quality of work life

There is no single universally accepted definition for quality of work life. However, in this study, quality of work life is defined as an individual’s evaluative reactions to and satisfaction with his or her work conditions and the total working environment (Penny & Joanne 2013). Sirgy *et al.* (2001) suggest that quality of work life is multifaceted and is influenced by a collection of job-related factors. These include job satisfaction, job involvement, work role ambiguity, work role conflict, work role overload, job stress, workload, work-family balance, shift work, involvement in decision-making, professional isolation, recognition, relationships with peers and supervisors, and opportunities to learn new skills (Ellis & Pompli 2002). A popular instrument for measuring these factors is the Work-Related Quality of Life (WRQoL) scale developed by Van Laar, Edwards and Easton (2007). In terms of the outcomes of quality work life in an organisation, it is considered important to provide employees with a healthy quality of work life, since this is linked with a number of desirable outcomes, such as the ability to increase task performance, lower absenteeism and turnover rate, lower tardiness frequency, and increased organisational effectiveness and organisational commitment (Rathi 2009; Wilson *et al.* 2004).

Transformational leadership

Transformational leadership is a form of leadership that creates positive change in the followers by enabling them to take care of each other’s interests and act in the interests of

the group as a whole (Yukl 2002). Unlike transactional leadership, in which the leader manipulates the followers by offering rewards in return for satisfying the demands of the leader, the transformational leader enhances the motivation, moral and performance of his follower group (Dionne *et al.* 2004). According to Bass and Avolio (1994), the characteristics of a transformational leader can be summarised through four critical components, namely: charisma or idealised influence, inspirational motivation, intellectual stimulation and personal and individual attention. These scholars further developed the Multifactor Leadership Questionnaire (MLQ), which has since been widely used to measure transformational leadership, as reported by Alsayed, Motaghi and Osman (2012). Another study by Rafferty and Griffin (2004) identified five sub-dimensions of transformational leadership, which are vision, inspirational communication, intellectual stimulation, supportive leadership and personal recognition. Such leadership has been shown to enhance both follower performance (Jorg & Schyns 2004; McColl & Anderson 2002; Yu, Leithwood & Jantzi 2002) as well as organisational performance (Boerner, Eisenbeiss & Griesser 2007; Waldman, Javidan & Varella 2004; Zhu, Chew & Spangler 2005). On the overall, by virtue of its impact on personal and organisational outcomes, transformational leadership is generally highly regarded by most management and organisational researchers and practitioners (Tucker & Russell 2004).

Theoretical framework and hypotheses formulation

The foregoing discussions of literature culminated in the formulation of the theoretical framework which is illustrated in Figure 1. The theoretical framework suggests that transformational leadership, which is the independent variable, exerts an influence on organisational citizenship behaviour and quality of work life, which are the intermediate variables. In turn, both organisational citizenship behaviour as well as quality of work life are antecedents to job performance, which is the outcome variable. These relationships are associated with four hypotheses, namely H_1 , H_2 , H_3 and H_4 .

Transformational leadership and organisational citizenship behaviour

Previous literature seems to link transformational leadership to organisational citizenship behaviour. For instance, as suggested by Rafferty and Griffin (2004), transformational

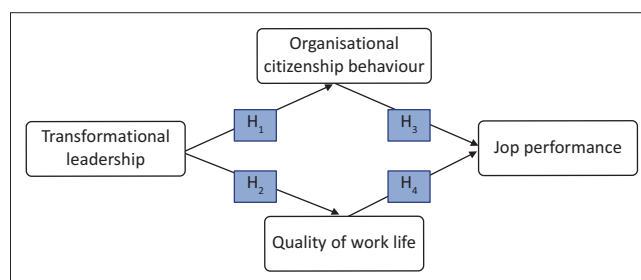


FIGURE 1: Theoretical framework.

leaders tend to display a number of developmentally-oriented behaviours, such as coaching followers, identifying appropriate training courses for followers to undertake and encouraging followers to develop their job-related skills and abilities in order to foster their self-confidence on undertaking a wide range of proactive tasks. Emanating from these efforts will be employees who are prepared to voluntarily exercise organisational citizenship behaviours (Ehrhart 2004). The inspiration provided by transformational leaders tends to motivate subordinates to articulate the future, providing meaning and challenge to their works, which in turn activates organisational citizenship behaviours (Bass & Riggio 2006). The results of a study conducted by Humphrey (2012) reveal that transformational leadership predicts organisational citizenship, but the relationship was mediated by organisational identification. Transformational leadership also enables followers to exceed what is expected of them, thereby positively impacting on extra-role performance through organisational citizenship behaviours (Vega-Vázquez, Cossio & Martin-Ruiz 2012). Consequently, the transformational leader is able to alter the priorities and aspirations of employees by directing them towards becoming more committed towards the organisation (Vila, Perez, & Morillas 2012). Additionally, a number of previous studies (Pillai, Schriesheim & Williams 1999; Podsakoff, MacKenzie & Bommer 1996; Wang *et al.* 2005) attest to the existence of a positive relationship between individualised considerations given by transformative leaders and organisational citizenship behaviours. A fairly recent study conducted by López-Domínguez *et al.* (2013) shows that there are mediated relations between transformational leadership and other dimensions of organisational citizenship behaviour. These empirical results lead to the following hypothesis:

H₁: Transformational leadership has a positive influence on organisational citizenship behaviour amongst supply management professionals.

Transformational leadership and quality of work life

An examination of the transformational leadership-quality of work life nexus appears to suggest the existence of a positive linkage between the two factors. Yair and Linton (2003) found that both transformational leadership and transactional leadership are related to the establishment of a quality environment. Goh and Geoffrey (2005) concluded that transformational leadership is positively linked to a number of organisational outcomes, such as job performance and ethical conduct, which are also related to quality of work life. Omolayo (2007) concluded that workers under transformational leadership styles experience less job-related tension than workers under who operate under undemocratic leadership styles. In a study by Helmiatin *et al.* (2012) it was observed that transformational leadership has a positive effect on both organisational citizenship behaviour and quality of work life. Transformational leadership is also directly associated with staff work satisfaction, organisational commitment, quality of work life and work performance

(Fang, Chang & Chen 2009). In a more recent study by Gillet *et al.* (2013), the existence of a positive relationship between transformational leadership and quality of work life found support, although the relationship was mediated by organisational justice. Based on the foregoing discourse, it is sound to presuppose that a positive linkage between transformational leadership and quality of work life in this study also exists. The following hypothesis is therefore proposed:

H₂: Transformational leadership has a positive influence on quality of work life amongst supply management professionals.

Organisational citizenship behaviour and job performance

According to Wang and Wong (2011), there has been an exponential increase of scholarly concern in the relationship between organisational citizenship behaviour and job performance over the past two decades. Spector and Fox (2002) advocate that organisational citizenship behaviours enable employees to perform better by improving their perception and willingness to help their co-workers or support their organisation. An investigation by Ilies, Scott and Judge (2006), which focused on investigating the relationship between personality traits, positive affects and citizenship behaviours, reveals that personality traits and positive affects correlated with organisational citizenship, which in turn correlated with job performance. Avey, Wernsing and Luthans (2008) concluded that organisational citizenship behaviour is directly associated with organisational commitment, which fundamentally increases both employee and organisational performance. Cicei's (2012) study highlights the importance of fostering organisational citizenship behaviours with a view of attaining extra-role performance by employees. Organisational citizenship behaviour is also positively correlated with job satisfaction, which in turn positively impacts on employee performance (Tsai & Wu 2010). Moreover, a study by Ozer (2011) indicates that co-worker relations mediate the positive relationship between organisational citizenship behaviours and job performance. As such, sufficient evidence is available to presume a positive interconnection between organisational citizenship behaviour and job performance in this study. The following hypothesis is therefore put forward:

H₃: Organisational citizenship behaviour has a positive influence on the job performance of supply management professionals.

Quality of work life and job performance

Mainstream research testifies to the existence of either direct or indirect relationships between quality of work life and job performance. A study by Huang, Lawler and Lei (2007) reveals that quality of work life has a significant impact on organisational commitment and intention to quit, both of which are interrelated with job performance.

Consistently, a study by Lee, Singhapakdi and Sirgy (2007) revealed that quality of work life generally has a positive influence on job performance related outcomes, such as job satisfaction, organisational commitment and camaraderie. Koonmee *et al.* (2010) found that the implicit form of ethics institutionalisation as well as quality of work life both have positive impacts on the three employee job-related outcomes: job satisfaction, organisational commitment and team spirit. In other studies by Normala (2010) and Ma *et al.* (2011) quality of work life was found to have a significant relationship with organisational commitment and employee performance. Furthermore, Probst (2003) found a positive connection between quality of work life and improved job performance through job security, whilst Cuyper and Witte (2010) opine that quality of work life mediates the relationship between job involvement and job performance. Based on the empirical findings discussed, a positive interplay between quality of work life and job performance in the present study can be envisaged. Therefore, the following hypothesis was formulated:

H₄: Quality of work life exerts a positive influence on the job performance of supply management professionals.

Research methodology

Sample and data collection

This study was part of a larger study conducted amongst supply management professionals employed in the South African government. This being the case, research data were collected from six government departments in Gauteng Province, South Africa. Two postgraduate students from a South African university of technology were recruited and trained to distribute and collect the questionnaires after appointments with targeted government departments were made by telephone. Out of 500 questionnaires that were initially distributed, a total of 264 usable questionnaires were retrieved for the final data analysis, representing a response rate of approximately 53%. This response rate was acceptable because it is in line with the suggestion by Sturgis, Smith and Hughes (2006) that response rates between 50% and 60% are sufficient to presume sample representativeness in cross-sectional surveys. In addition, Hatcher (1994) recommended that the minimum number of respondents should be five times larger than the number of variables, which implies that the minimum sample size in the present study should be 200, since there were four variables that were being tested. The sample size used in the current study is still regarded as adequate when other older and authoritative prescriptions, such as the Rule of 200 (Guilford 1954) and the Rule of 250 (Cattell 1978), are taken into consideration. Thus, using these recommendations as a point of reference, the actual sample size of 264 used in this study is considered to be adequate.

Sample description

Nonresponse bias, which was considered to be the degree to which a researcher does not succeed in obtaining the

TABLE 1: Sample demographic characteristics.

| Variable | Frequency | % |
|--|------------|------------|
| Age group | | |
| 18–30 years | 77 | 29 |
| 31–40 years | 108 | 41 |
| 41–50 years | 50 | 19 |
| ≥ 51 | 29 | 11 |
| Total | 264 | 100 |
| Highest academic qualification | | |
| Matriculation | 19 | 7 |
| Certificate | 61 | 23 |
| Diploma | 89 | 34 |
| Degree | 71 | 27 |
| Higher degree | 19 | 7 |
| Other qualification | 5 | 2 |
| Total | 264 | 100 |
| Type of employment | | |
| Permanent | 168 | 64 |
| Contract | 48 | 18 |
| Part time | 48 | 18 |
| Total | 264 | 100 |
| Work experience | | |
| ≤ 2yrs | 55 | 21 |
| Between 2–5 years | 87 | 33 |
| Between 6–9 years | 77 | 29 |
| ≥ 9 years | 45 | 17 |
| Total | 264 | 100 |
| Occupational area | | |
| Procurement/buying | 87 | 33 |
| Transportation/Distribution | 45 | 17 |
| Customer/Client services | 98 | 37 |
| Warehousing/Storage | 11 | 4 |
| Other (e.g. planning, technology, financial, etc.) | 23 | 9 |
| Total | 264 | 100 |
| Gender | | |
| Male | 151 | 57 |
| Female | 113 | 43 |
| Total | 264 | 100 |

responses from all potential respondents included in the sample (Atif, Richards & Bilgin 2012), was assessed using the Linear Extrapolation Technique suggested by Armstrong and Overton (1977). This involved analysing the first quartile of responses (66) against the last quartile of responses (66). The comparison yielded no significant differences at the 95% confidence interval (sig = 0.05), including age group, respondent work experience, highest academic qualification, occupational area, type of employment and gender. This result suggests a minimal level of nonresponse bias in the study. The profile of participants is reported in Table 1.

An analysis of Table 1 discloses that approximately 70% of respondents were aged 40 years and younger. Approximately 62% of the respondents had work experiences ranging between 2 and 9 years. A majority of the respondents (61percent) were holders of either a diploma or a first degree. Approximately 70% of the respondents were employed either in customer/client services or procurement. A further 64% of the respondents were employed on a permanent basis. The analysis also reveals that 57% of the respondents were male whilst 43% were females.

Measurement instrument

Measurement scales used in this study were operationalised primarily on the basis of previous research studies. Minor adaptations were made in order to fit the current research context and purpose. Transformational leadership was measured using five items adapted from the MLQ developed by Bass and Avolio (1994). This questionnaire has been validated by a number of previous studies (e.g. Hemsworth, Muterera & Baregheh 2013; Kirkbride 2006; Muenjohn & Armstrong 2008; Ozaralli 2003), which confirms that it is an appropriate instrument for adequately capturing the constructs of transformational leadership. Organisational citizenship was measured using six items adapted from the 'Organisational Citizenship Behaviour Checklist' developed by Spector *et al.* (2010) and validated by Gualandri (2012), as well as Uzonwanne (2014). Quality of work life was measured using five items adapted from the WRQoL scale developed by Van Laar *et al.* (2007). Previous validation of the WRQoL scale was conducted by several scholars (e.g. Chaiea 2014; Sirisawasd *et al.* 2014). Job performance was measured using six items adapted from the 'Role-Based Performance Scale' (Welbourne *et al.* 1998), which was validated by Walumbwa *et al.* (2008). Response options were configured on 7-point Likert-type scales that were anchored by 1 = strongly disagree and 7 = strongly agree. The selection of a 7-point Likert-scale configuration ahead of the 5-point Likert-scale type was premised on the recommendation by Finstad (2010)

that in terms of reliability, scales with more points are considered more reliable because they prevent subjects from being too neutral in their responses.

Measure validation

For the purposes of this study, the two-step protocol proposed by Anderson and Gerbing (1988), which entails conducting a Confirmatory Factor Analysis (CFA) prior to the testing of hypothesis, was adopted. Overall acceptable model fit are indicated by Goodness-of-Fit Index (GFI) values ≥ 0.80 , Adjusted Goodness-of-Fit Index (AGFI) values ≥ 0.80 , Root Mean Square Error of Approximation (RMSEA) values ≤ 0.08 , Incremental Index of Fit (IFI), Tucker-Lewis Index (TLI) and Comparative Fit Index (CFI) values ≥ 0.90 , and Chi-square degrees of freedom ratio (CMIN/DF) value < 3 (Blunch 2008). Recommended statistics for the final overall model assessment showed acceptable fit of the measurement model to the data: CMIN/DF= 2.173, GFI = 0.809, AGFI = 0.863, IFI = 0.917, TLI = 0.934, CFI = 0.942, and RMSEA = 0.076. These results signify that there was no signal of model misspecification in this study. The loadings of individual items on their respective factors are reported in Table 2.

To assess scale reliability, the Composite Reliabilities (CR) and Average Variance Extracted (AVE) were computed using formulas proposed by Fornell and Larcker (1981). CR was calculated using the following formulae:

TABLE 2: Accuracy analysis statistics.

| Research constructs | Descriptive statistics | | Reliability tests | | CR | AVE | Item loadings | Highest SV |
|---|------------------------|------|-------------------|----------------|-------|-------|---------------|------------|
| | Mean | SD | Item-total | α value | | | | |
| Transformational leadership | | | | | | | | |
| TL-1 | | | 0.566 | | | | 0.771† | |
| TL-2 | | | 0.612 | | | | 0.783† | |
| TL-3 | 5.76 | 1.21 | 0.615 | 0.756 | 0.815 | 0.566 | 0.823† | 0.175 |
| TL-4 | | | 0.519 | | | | 0.864† | |
| TL-5 | | | 0.537 | | | | 0.818† | |
| Organisational citizenship behaviour | | | | | | | | |
| OCB-1 | | | 0.564 | | | | 0.677† | |
| OCB-2 | | | 0.516 | | | | 0.804† | |
| OCB-3 | 5.63 | 1.42 | 0.544 | 0.873 | 0.823 | 0.541 | 0.831† | 0.431 |
| OCB-4 | | | 0.724 | | | | 0.820† | |
| OCB-5 | | | 0.661 | | | | 0.747† | |
| OCB-6 | | | 0.586 | | | | 0.725† | |
| Quality of work life | | | | | | | | |
| QWL-1 | | | 0.594 | | | | 0.833† | |
| QWL-2 | | | 0.762 | | | | 0.857† | |
| QWL-3 | 5.43 | 1.27 | 0.543 | 0.811 | 0.878 | 0.585 | 0.848† | 0.284 |
| QWL-4 | | | 0.645 | | | | 0.775† | |
| QWL-5 | | | 0.511 | | | | 0.741† | |
| Job performance | | | | | | | | |
| EP-1 | | | 0.676 | | | | 0.835† | |
| EP-2 | | | 0.643 | | | | 0.900† | |
| EP-3 | 5.68 | 1.34 | 0.535 | 0.776 | 0.856 | 0.572 | 0.527† | 0.319 |
| EP-4 | | | 0.531 | | | | 0.801† | |
| EP-5 | | | 0.783 | | | | 0.649† | |
| EP-6 | | | 0.529 | | | | 0.913† | |

SD, standard deviation; CR, composite reliability; AVE, average variance extracted; SV, shared variance.

Scale: 1 - Strongly Disagree; 4 - Neutral; 7 - Strongly Agree.

†, significance level $p < 0.001$

Measurement model fits: $\chi^2/df = 2.174$; GFI=0.809; CFI = 0.942; IFI = 0.917; TLI = 0.934; RMSEA = 0.076.

$$(CR): CR\eta = (\sum\lambda_{yi})^2 / [(\sum\lambda_{yi})^2 + (\sum\epsilon_i)],$$

or stated in full:

$$\begin{aligned} \text{Composite Reliability} \\ &= (\text{square of the summation of the factor loadings}) \\ &/ [(\text{square of the summation of the factor loadings}) \\ &+ (\text{summation of error variances})]. \end{aligned} \quad [\text{Eqn 1}]$$

AVE was calculated using the following formulae:

$$V\eta = \sum\lambda_{yi}^2 / (\sum\lambda_{yi}^2 + \sum\epsilon_i),$$

or stated in full:

$$\begin{aligned} \text{Average Variance Extracted} \\ &= (\text{summation of the squared of factor loadings}) \\ &/ [(\text{summation of the squared of factor loadings}) \\ &+ (\text{summation of error variances})] \end{aligned} \quad [\text{Eqn 2}]$$

As further revealed in Table 2, the CR values were all above the recommended value of 0.7, suggested by Hulland (1999), thereby indicating acceptable internal consistency and reliability of the respective measures. All AVE values were above 0.5, which is regarded as acceptable by Fraering and Minor (2006). These results provided evidence for acceptable levels of research scale reliability. In addition, Cronbach alpha values (0.756 – 0.811), for all scales were also beyond the recommended 0.7, which attests to the acceptable levels of internal consistency, in accordance with the prescription by Malhotra (2010).

The individual item loadings ranged between 0.527 and 0.913, which satisfies the 0.5 minimum threshold recommended by Anderson and Gerbing (1988). By implication, this result indicated acceptable individual item convergent validity as more than 50% of each item's variance was shared with its respective construct. This evidence supported the convergent validity of all scale items. Moreover, the CR value was above the recommended threshold of 0.6, therefore further confirming the existence of convergent validity. Discriminant validity was established by testing (Fornell & Larcker 1981) whether the AVE value was greater than the highest Shared Variance (SV), as well as the chi-square difference in all two-factor (i.e. any paired latent constructs) CFA tests, which restricted the factor intercorrelations to unity (Anderson & Gerbing 1988). All pairs of the constructs and the two-factor CFA tests results revealed an adequate level of discriminant validity.

Data analysis and results

In this study, structural equation modelling (SEM) was used to estimate the interconnection amongst the factors as proposed on the theoretical framework illustrated in Figure 1. In accordance with Anderson and Gerbing (1988), a two-step model structure approach was utilised, with the testing of the structural model being preceded by an assessment of measurement models. Acceptable model fit is indicated

Table 3: Results of structural equation model analysis.

| Path coefficients | Hypothesis | Factor loading | Hypothesis decision |
|--|----------------|----------------|---------------------|
| Transformational leadership → Organisational citizenship behaviour | H ₁ | 0.349* | Supported |
| Transformational leadership → Quality of work life | H ₂ | 0.834* | Supported |
| Organisational citizenship behaviour → Job performance | H ₃ | 0.482* | Supported |
| Quality of work life → Job performance | H ₄ | 0.755* | Supported |

χ^2 (df) = 740.358 (342); GFI = 0.891; AGFI = 0.826; IFI = 0.971; TLI = 0.946; CFI = 0.970; RMSEA = 0.042.
*, $p < 0.01$

through satisfaction of the following statistical parameters: CMIN/DF value < 3, both GFI and AGFI values \geq 0.80, RMSEA values \leq 0.080, and IFI, TLI and CFI values \geq 0.90 (Blunch 2008). The results of the present study reveal the following: CMIN/DF = 2.165, GFI = 0.891, AGFI = 0.826, IFI = 0.971, TLI = 0.946, CFI = 0.970, and RMSEA = 0.042, as shown in Table 3. This constellation of results denote that the model converged well (acceptable model fit) since it satisfied the recommended numerical thresholds (Bentler 1990; Browne & Cudeck 1993; Marsh, Balla & Hau 1996). For testing the hypotheses, the Maximum Likelihood Estimation (MLE) method was employed. This was prompted by the fact that MLE has desirable asymptotic properties and is scale-free, yielding minimum variance and unbiasedness (Joreskog & Sorbom 1993). The results of the SEM are reported in Table 3.

The results in Table 3 provide empirical support for the quartet of hypotheses proposed in the present study. The first hypothesis (H₁) proposed that the influence of transformational leadership on organisational citizenship behaviour is positive. Consistent with this hypothesis, the results of the study reveal that the influence of transformational leadership on organisational citizenship behaviour is positive, moderate and significant ($r = 0.349^{***}$). This demonstrates that higher levels of transformational leadership are associated with moderately higher levels of organisational citizenship behaviours amongst supply management professionals in government. The second suggested hypothesis (H₂) proposed that the influence of transformational leadership on quality of work life is positive. In line with this proposition, a strong positive and significant relationship ($r = 0.834^{***}$) was observed between the two factors. This finding implies that higher levels of transformational leadership are likely to trigger stronger positive perceptions of quality of work life amongst supply management professionals in the government.

The third hypothesis (H₃) suggested that organisational citizenship behaviour positively influences employee productivity. The results of the study endorsed this hypothesis by showing a positive, moderate and significant ($r = 0.482^{***}$) relationship between the two factors. This finding suggests that greater organisational citizenship behaviours by supply management practitioners are expected to stimulate moderately higher employee performance levels amongst them. The final hypothesis (H₄) proposed that quality of work life exerts a positive influence

on job performance. In support of H₄, the study revealed a strong positive and significant relationship ($r = 0.755^{***}$) between these two factors. Thus, higher levels of quality of work life are positively associated with higher levels of job performance amongst supply management professionals.

Discussions and conclusion

The current study was intended to fulfil four aims. The first aim of the study was to investigate the influence of transformational leadership on organisational citizenship behaviours. The second aim was to investigate the influence of transformational leadership on quality of work life. The third aim was to investigate the influence of organisational citizenship behaviours on job performance. The final aim of the study was to investigate the influence of quality of work life on job performance. The perceptions of supply management practitioners in the South African government were used in assessing these relationships. In the results of the study, it was observed that transformational leadership exerts a positive, moderate and significant influence on organisational citizenship behaviour. Transformational leadership also exerts a strong positive and significant influence on quality of work life. In turn, the influence of organisational citizenship behaviour on job performance is positive, moderate and significant whilst the influence of quality of work life on job performance is positive, strong and significant. Therefore, all four hypotheses that were put forward in this study were empirically supported and accepted.

There are two notable observations in the findings of the study. Firstly, transformational leadership exerts a greater impact on quality of work life than it does on organisational citizenship behaviour. A possible explanation for this result could be in the nature of organisational citizenship behaviour itself. As mentioned by Yildirim, Uzumb and Yildirim (2012), organisational citizenship behaviours tend to be discretionary rather than compulsory, since they are not part of an individual's job description but are implemented through an employee's choice, and are mostly influenced by the type of culture that exists in the organisation rather than by the dominant leadership style. Organisational citizenship behaviours breed and thrive in organisations that have strong and healthy cultures that are more functional than dysfunctional (Mohanty & Rath 2012). A study conducted by Smit, Ludik and Forster (2011) noted that the culture in the South African government is characterised by unethical vices, such as corruption, bureaucracy, red tape, and politicking amongst others, which militate negatively against both employee and organisational performance. It is possible that such a dysfunctional culture limits the influence of transformational leaders in the South African government. The moderate rather than strong relationship between transformational leadership and organisational citizenship behaviour in this study provides further confirmation of the limited influence of the former on the latter.

The second notable observation is that the impact of quality of work life on job performance is higher than the impact of

organisational citizenship behaviour on job performance. Perhaps this could be attributed to the fact that in the current operational climate in the South African government, employees are not rewarded for demonstrating extra role actions such as organisational citizenship behaviours. For instance, in a recent study, Mahembe and Engelbrecht (2014) observed that whilst organisational citizenship behaviours in the aggregate promote the effective functioning of an organisation, the current system in the South African government does not have an explicit or direct mechanism for recognising and rewarding such conduct. In a previous study, Mafini and Pooe (2013) acknowledged the importance of organisational citizenship behaviours in the South African government, but also noted that ineffective rewarding and recognition of outstanding employees still hinders the process, leading to low job performance. Naturally, employees are less motivated to exert organisational citizenship behaviours under such circumstances. This non-existence of a clear formulae for rewarding outstanding employee performance or extra role behaviours could therefore be a major factor limiting the effect of organisational citizenship behaviours on the job performance of supply management practitioners in the government.

Limitations and implications for further research

This study is not without limitations that are worth mentioning. Firstly, the study is based on a limited sample ($n = 264$), which was drawn from the South African government only. In view of this fact, caution should be exercised in generalising the findings of this study to other contexts. To enhance the extent to which the study can be generalised, future research on the same topic could use amplified sample sizes drawn from other environments or countries.

Secondly, the theoretical framework was restricted to three antecedent factors of employee performance only. Future studies could be conducted using other factors, for example, motivation, remuneration, teamwork, manager-employee relationships, personality factors and work family balance that were omitted from the present study.

Thirdly, conclusions drawn from this study are based on a single cohort of professionals, namely supply management practitioners in the government. As such, the theoretical framework can be tested using individuals in other professions and based elsewhere. This may provide a basis for comparisons, which may provide more complex results. Furthermore, longitudinal studies on the same topic can be conducted in order to assess the factors influencing job performance over different time periods, taking into account external dynamics such as economic developments, possible change of government, policy changes and undercurrents in the labour market, amongst others. Also, future studies could be conducted using the ex-post facto mode of research. For instance, the same questionnaire can be administered to supply management professionals after the occurrence of a

strategic event, such as a salary raise or industrial action by civil servants. This may reveal the moderating impact of such events on the relationships examined in this study.

Managerial implications

This study could arguably be amongst the first to test the proposed theoretical framework using data collected from supply management professionals in the South African government. Because of the importance of government to the national economy of any country, the findings provide fruitful implications for management practitioners. The overall implication is that managers in government can enhance employee performance of supply management practitioners through the cultivation of transformational leadership qualities.

To develop transformational leadership, managers are encouraged to cultivate individualised consideration by giving empathy and support, keeping communication open and placing challenges before the followers. Managers could encourage creativity by challenging assumptions, taking risks and soliciting the ideas of their followers. In order to inspire subordinates, managers could challenge followers with high standards, communicate optimism about future goals, and provide meaning for the task at hand. To develop idealised influence, it is important for managers to become role models for high ethical behaviour, instil pride, and gain respect and trust from their followers (Bass & Avolio 1994).

Since organisational citizenship behaviours exert a positive influence on job performance, it is necessary for managers in government to generate initiatives that are intended to improve organisational citizenship behaviours amongst supply management practitioners. As suggested by Spector *et al.* (2010), these initiatives include being supportive in meeting the needs of subordinates, being empathetic, ensuring that the efforts of subordinates are recognised and acknowledged, giving subordinates the opportunity to participate in decision-making and facilitating job enhancements to ensure that work becomes more interesting to employees.

Since quality of work life exerts a greater impact on employee performance than organisational citizenship behaviour, managers in the government should direct greater efforts towards quality of work life than to organisational citizenship behaviours. In this respect, strategies such as encouraging autonomy and innovativeness, recognising and rewarding good work, increasing employee engagement and decision-making, improving working conditions, as well as providing training and development may prove to be useful tools, as suggested by Van Laar *et al.* (2007).

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Competing interests

The author declares that he has no financial or personal relationship(s) that may have inappropriately influenced him in writing this article.

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