AOSIS

Intention to quit among Generation Y information technology professionals in South Africa

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Orientation: This study is positioned within the field of positive organisational behaviour.

Research purpose: The study explored job embeddedness, leadership, job resources, satisfaction with pay and supportive organisational climate as antecedents of intention to quit among the Generation Y employees within the information technology (IT) sector.

Motivation for the study: Knowledge about why Generation Y individuals in the IT sector intend to quit their jobs will assist managers in facilitating their retention.

Research approach/design and method: The study utilised a mixed methods approach, using both qualitative and quantitative methods. The results of the qualitative phase confirmed the variables identified as antecedents during the literature overview. In the quantitative phase, the measurement model as well as the proposed structural model were empirically evaluated. A total of 270 usable questionnaires were analysed.

Main findings: A factorially derived model identified satisfaction with benefits, job embeddedness, supportive organisational climate and transformational leadership as antecedents to intention to quit explaining 40% of the variance. Transformational leadership, social support, job security, supportive organisational climate and satisfaction with benefits explained 60% of the variance in job embeddedness.

Practical/managerial implications: The study offers recommendations aimed at increasing employees' satisfaction with benefits, facilitating their embeddedness, increasing the supportiveness of the organisation and leadership skills training.

Contribution/value-add: The study contributes to the existing theory about job embeddedness and intention to quit. It offers recommendations for future research, as well as practical interventions.

Keywords: generation Y; intention to quit; job embeddedness; transformational leadership; job resources; satisfaction with benefits; supportive organisational climate.

Introduction

Orientation

Veldsman and Johnson (2016) have identified technological innovation as one of the five most important agenda items of high performing South African company boards. According to PricewaterhouseCoopers (PwC, 2016), the adoption of Industry 4.0 technologies enables companies to not only change their productivity levels, but also to design and improve quality outputs across the business value chain, as well as internally. For organisations to deliver in terms of these strategic imperatives, they require people who are skilled in software development to enable and operationalise the technology-related strategies. Hence the attraction, development and retention of professionals with these information technology (IT) skills have become critical, especially in the global software development sector (Holmström et al., 2006). In a similar vein, Mukhuty et al. (2022) claim that the turnover of skilled IT professionals, who often hold tacit knowledge about systems and how they interface with business processes, makes their turnover extremely expensive. The pool of IT professionals in South Africa who must serve various industries is, according to Stats South Africa, rather small and totalled only 44 730 in 2015, which makes it a scarce resource in South Africa (M. Malerato, personal communication, June 13, 2016).

According to research conducted by Goldman Sachs, an American-based company, the workforce will be dominated by Generation Y workers by 2025, and they are projected to make up three-fourths of the workforce (www.icims.com) by then. The dominance of the Generation

Y age cohort among IT professionals in South Africa could similarly be anticipated.

Lyons et al. (2015) have found that by the age of 30, Generation Y workers have had almost twice as many jobs and organisational changes as Generation X, and almost three times as many job changes as the Baby Boomers. Wang et al. (2015) reported that the urge to do meaningful work, to work on significant projects and the need for their work to be related to both the micro and macro environments, are key in motivating and retaining Generation Y employees. According to Wang et al. 2015, the best way to retain Generation Y is for managers to use mentorship and coaching programmes, to arrange flexible working hours and profit-sharing programmes, and make use of telecommunicating as a mode of communication.

It could thus be hypothesised that more knowledge of the reasons for the voluntary turnover of Generation Y IT professionals will enable South African businesses to facilitate their motivation to stay and promote their retention.

Research purpose and objectives

Given the need to understand the reason for intention to quit among Generation Y IT professionals in South Africa and the challenge to retain them, the objectives of this study were defined as follows:

- To propose a theoretical model of variables influencing intention to quit among Generation Y employees in the IT industry.
- To evaluate the theoretical model by means of qualitative methodologies and to develop a structural model explaining the intention to quit among Generation Y IT professionals.
- To empirically evaluate the structural model developed and determine the nature of the relationships between the identified variables and intention to quit among Generation Y IT professionals.
- To make recommendations to recruiters, human resource (HR) professionals, talent managers and business leaders within software development organisations with respect to the intentional and purposeful management and retention of Generation Y professionals.

Literature review

According to Stoerger (2009), the age parameters for Generation Y are somewhat uncertain. Generational boundaries, especially the definitions thereof, have been predominantly researched in the United States of America (US), the United Kingdom (UK), Canada, and New Zealand (Cennamo & Gardner, 2008). South Africa, however, has unique dynamics and therefore, for the purposes of this study, Generation Y members were classified as those born between 1980 and 2000, as suggested by Marais (2013).

According to Rai (2017), Generation Y is characterised by being individualistic, innovative, creative, celebrators of diversity and multitaskers who create their own rules. Their preferred

work environments are unstructured and supportive, with personalised assignments and interactive relationships with their supervisors (Lavoie-Tremblay et al., 2010). They work well in a team environment and prefer close relationships with their supervisors to help them feel more confident and supported (Eisner, 2005). Generation Y seek to balance their work and personal lives and are not prepared to commit to jobs that require long hours, or evening and weekend projects (Cennamo & Gardner, 2008). Generation Y prefer meaningful jobs where they can make an overall contribution to the bottom line of the organisation and achieve a sense of meaning (Eisner, 2005). In a South African study of Generation Y engineers, Marais (2013) found that job engagement was associated with using the latest technology and doing meaningful work. The hygiene factors that were likely to lead to intention to quit were money, promotion, experience, growth and development, challenging work, support, transparency, human dignity, work relationships and work–life balance. In terms of their expectations regarding a desirable work environment, acquiring experience and exposure, learning from experts, working on ground-breaking technology, making a meaningful contribution and having autonomy were regarded as important.

Turnover intentions

Intention to quit refers to an individual's intention to leave their employing organisation, indicating dissatisfaction with the work relationship (Cho et al. 2009).

For the purposes of the current research, intention to quit will be defined as (Booysen, 2019):

> The intentional activation of the psychological withdrawal from an organisation as a result of an event or dissatisfaction which may translate into the actual act of leaving the organisation. (p. 27)

The following section examines the antecedents of intention to quit.

Antecedents to intention to quit and employee turnover

Mitchell et al. (2001a) claimed that the traditional model for the prediction of employee turnover incorporated organisational commitment, job satisfaction and perceived job alternatives as the most important variables. They proposed the inclusion of job embeddedness (JE) and claimed that it significantly improved the prediction of turnover. A study by Besich (2005) confirmed that JE improved the predictive power of employee turnover among IT professionals above and beyond that of the traditional model.

Kim (2012) explored employee turnover intentions in a governmental IT department and found that promotion and advancement opportunities, training and development, supervisory communications, pay and reward satisfaction, and family-friendly policies significantly affected the turnover intentions of the IT professionals in their study.

Employee job embeddedness

Job embeddedness has been defined as the fit, links and sacrifice between employees, their organisation and their community (Mitchell et al., 2001b). When used in this context, JE represents the totality of reasons why an employee would remain at the present job. Some authors differentiate between on-the-job embeddedness and off-the-job embeddedness – the focus of the current study is on on-the-job embeddedness. Tews et al. (2015) found that fun job responsibilities, perceived career opportunities and praise and rewards, in that order, were considered the predictors of embeddedness among Generation Y employees.

According to Mitchell et al. (2001b), organisational fit is broadly defined as the perceived congruency between the employee's personal values, goals, career aspirations and those of the organisation and how the skills, knowledge and abilities of the employee are aligned. Organisational links refer to those formal and informal psychological and social connections that the employee has within the organisation. Perceived organisational sacrifice relates to those tangibles and intangibles that an employee feels he or she will need to give up if they were to leave the organisation.

For the purposes of the current study, job embeddedness was defined as (Booysen, 2019):

> Job embeddedness is the web that creates the motivation to stay in the organisation depending on the strength of the number of links the employee has in the organisation and society, how well the employee fits in with the organisation and community and the perceived benefits in the organisation and society they would be sacrificing if they would leave. (p. 33)

Bergiel et al. (2009) found that JE fully mediated the impact of compensation and growth opportunities and partially mediated supervisor support on intention to quit. In similar vein, Fatima et al. (2015) found that JE, perceived organisational support and trust mediated the relationship between HR practices and employee performance.

Akgunduz and Cin (2015) found that the negative relationship between managerial fairness and intention to quit was bolstered when their JE increased. Karatepe and Shahriari (2014) studied JE as a moderator and found that the negative relationship between the organisational justice dimensions and turnover intentions is strengthened by JE.

Transformational leadership

According to Masood and Zia-ur-Rehman (2017), there is a growing interest in investigating the relationship between leadership and JE.

A study conducted in Malaysia investigating the impact of reward and transformational leadership on the intention to quit of Generation Y employees confirmed that transformational leadership had a significant negative relationship with intention to quit (Jauhar et al., 2017).

In a similar study conducted in Indian small and medium IT enterprises, it was found that transformational leadership generated higher levels of psychological empowerment and trust among employees, which in turn led to a decrease in turnover intentions (Mittal, 2016).

Eberly et al. (2017) found that transformational leadership had a negative and significant indirect effect on turnover intentions through JE. In a similar vein, Waldman et al. (2015) found that transformational leadership can be a critical link in embedding employees. They claim that transformational leadership assists in achieving a high-quality relationship between leaders and followers, and beyond that it may also reinforce retention.

Research on the leadership preferences of Generation Y employees has indicated that they seek opportunities for growth and want mentors that would guide them, advancing their career development (Dulin, 2008). The current researchers hypothesised that Generation Y's recorded needs complement the description of transformational leadership as leaders who provide constructive feedback to their followers, convince followers to exhibit extra effort, and encourage followers to think creatively about complex problems.

Organisational culture

Deal and Kennedy (1982) originally referred to organisational culture as a system of informal guidelines serving as a form of social agreement that helps employees understand how life in the organisation, inclusive of rewards and discipline, operates. Choong et al. (2013) found a significant negative relationship between organisational culture and turnover intention among Generation Y professionals in the fast-food industry. Their finding corresponds with the work of other authors who found that, where a positive culture exists, one might see an increase in job satisfaction and therefore lower turnover (Apker et al., 2003). The current researchers hypothesised that the negative relationship between positive organisational culture and turnover would hold true in the case of Generation Y IT professionals.

Supportive organisational climate

Luthans et al. (2008, p. 255) defined a supportive climate as 'the overall amount of perceived support employees receives from their immediate peers, other departments and their supervisor that they view as helping them to successfully perform their work duties'. In a similar vein, Schyns et al. (2009) found that a supportive organisational climate is characterised by higher levels of supportive leadership, encouragement of followers, and support for their development and empowerment. According to García-Alcaraz et al. (2023), key climate dimensions include individual autonomy, degree of structure, reward orientation, and consideration, warmth, and support. Rewards linked to organisational practices, such as learning, are also vital. Gil et al. (2023) found that supportive organisational climate has a positive effect on training outcomes. Feldman and Ng (2007)

claim that it is the emotional intensity of the relationship ties that has an impact on mobility and embeddedness. They postulate that from an embeddedness perspective, group cohesion brings about feelings of obligatory reciprocity. Guzzo et al. (1994), on the other hand, found that an employee who views an employer to be low on support is very likely to look for an alternative opportunity, hoping to find an employer who could offer greater support.

It can thus be hypothesised, given the recorded characteristics of Generation Y professionals, that supportive organisational culture would influence both the JE of Generation Y IT professionals and their intention to quit.

Job resources

Job resources are defined by Demerouti et al. (2001a) as the physical, social, psychological and/or organisational qualities of the job that, (1) are functional in the accomplishment of goals, (2) decrease job demands and the related physiological and psychological costs, and (3) encourage personal growth and development. Job resources may have both intrinsic motivational potential through the facilitation of learning or personal development, and extrinsic motivational learning potential through the provision of help or information for the achievement of a goal (Schaufeli & Bakker, 2004). This is supported by the work of Satya et al. (2022) who found that job resources have a significant positive effect on employee engagement.

The study by Kim (2012) has shown that promotion and advancement opportunities, training and development, supervisory communications, pay and reward satisfaction, and family-friendly policies significantly affected the turnover intentions of IT professionals.

According to Allen and Shanock (2013), socialisation tactics, consisting of social support by experienced organisational members and specific information regarding the timing and sequence of learning activities and experiences, were positively correlated with JE.

Bergiel et al. (2009) found that JE fully mediated the relationship between compensation and growth opportunities (a subconstruct of job resources), and intention to quit. A further finding in their study was that JE partially mediated the impact of supervisor support on intention to quit.

Henry (2006) claims that Generation Y individuals are motivated by opportunities for self-improvement and participation in training, learning and development activities. He believes that Generation Y hold extremely high expectations of their employers in terms of benefits, flexibility and compensation in exchange for working hard to achieve their goals and seizing opportunities for growth. According to Feldman and Ng (2007), if individuals are successful in getting promoted internally, they would also be less inclined to seek opportunities for promotion in the external market.

Value congruency

Most Generation Y professionals seem to have a strong preference to work for organisations with strong value systems (Smith, 2010). They expect to be allowed to be authentic, congruent and true to themselves within the workplace. Mitchell et al. (2001a) postulate that when employees experience congruency between their values and that of the organisation, they will have a lower level of turnover intention. Values influence employee behaviour and would also inform the perception of leadership qualities, job resources, organisation culture, organisation climate and JE. According to Queiri and Madbouly (2017), freedom work values fit, extrinsic work values fit and demands abilities fit were relevant predictors of Generation Y employees' intention to quit, with freedom work values fit being the strongest direct predictor.

Development of a theoretical model

Based on the preceding discussion, an initial theoretical model composed of independent variables, moderator variables and dependent variable was developed (See Figure 1). The independent variables were hypothesised to be transformational leadership, job resources, organisational culture and organisational supportive climate. The researchers noted the theoretical overlap between value congruence and organisational fit of the JE and omitted value congruence in the interest of reducing the number of variables included in the structural model. The dependent variable was intention to quit, while JE was hypothesised to be a moderator variable in accordance with the findings of Akgunduz and Cin (2015), Fatima et al. (2015), Karatepe and Shahriari (2014), and Bergiel et al. (2009).

Research design
Research approach

This study, which is based on the unpublished doctoral research of the first author (Booysen, 2019), utilised a multi-method approach including both a qualitative and a
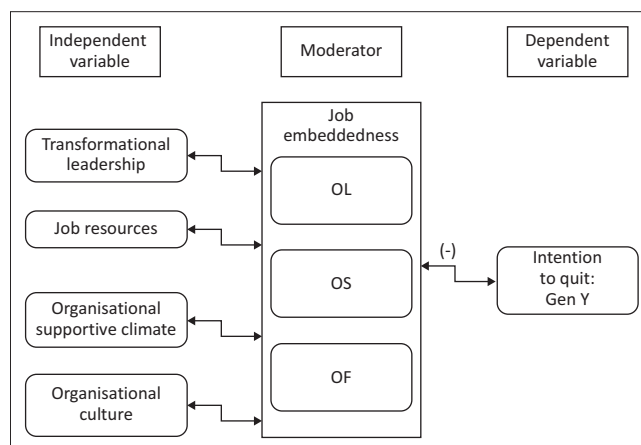
Source: Booysen, C. (2019). *Antecedents to the intention to quit amongst Generation Y information technology professionals in software development organisations in South Africa.* Unpublished doctoral dissertation, Stellenbosch University, Stellenbosch, South Africa

OL, Organisational links; OS, Organisational sacrifice; OF, Organisational fit; Gen Y, Generation Y.

FIGURE 1: Proposed theoretical model.

quantitative strand, but was primarily based on the positivistic research paradigm. An exploratory sequential mixed methods design (Creswell, 2014) was employed that consisted of three phases. The initial phase, which was the qualitative phase, was used to collect data through semi-structured interviews and focus groups from three technology organisations. The data collected served the purpose of validating and refining the provisional theoretical model. The next phase involved a trial run of the provisionally compiled questionnaire aimed at testing the constructs included in the theoretical model, while the final phase focussed on empirically evaluating the measurement and structural models.

Research method

Phase 1: Research procedure and participants

Three focus groups were utilised from three medium-sized software development organisations (one in financial services, one in retail and another in the logistics and warehousing industry). The researcher obtained permission from the chief executive officers (CEOs) of the three organisations to conduct the research. The Group Human Resources Executive sent an introductory e-mail to all Generation Y employees in which they were informed of the four dates on which the focus groups were scheduled. The introductory invitation made it clear that participation would be voluntary, and an informed consent form was attached, which outlined the purpose of the study and the assurance of confidentiality.

The email sent to the recipients conveyed a collegial atmosphere, emphasising the researcher's role as a learner seeking to better understand the concepts. The resulting interaction was marked by mutual respect, a collaborative orientation and a strong sense of partnership between all parties involved.

The participants had to be permanently employed within the software development industry and born between 1980 and 2000. A total of 34 employees accepted the invitation and participated in the four focus group sessions.

When participants arrived at the venue, they were each provided with a copy of the consent form. Following the signing of the consent forms, the researcher distributed a semi-structured questionnaire and explained that each participant had to record their answers to the eight questions on the answer sheet provided. After this, they would be afforded an opportunity to discuss their answers. Participants were also informed upfront that these discussions would be recorded by making use of an audio recorder.

The semi-structured questionnaire was informed by the Job Embeddedness Interview Guide developed by Holmes et al. (2013), as well as insights derived from the literature review. The questions contained in the questionnaire and the responses of the participants are presented in Appendix 1.

After the focus group sessions, a trained research assistant manually captured all the written responses and transcribed the audio recordings. No new themes emerged after the fourth focus group, and after the 34th interview, the researcher felt comfortable and confident that she had reached data saturation point.

The Research Ethics Committee Human Research (Humanities) of the home university approved all the phases of the current research project.

The results of the qualitative phase were interpreted as supporting four of the constructs that were provisionally identified (transformational leadership, job resources, supportive organisational climate and JE). The responses did not support the inclusion of organisational culture, but the inclusion of satisfaction with pay was suggested, which led to the amendment of the theoretical model. In a study conducted by Jung and Yoon (2015), they found that pay structure, pay level, pay raise, and benefits had negative relationships with the employees' intention to quit. In a similar vein, Shields et al. (2012) found that satisfaction with pay was negatively correlated with intention to quit. In a South African context, Robyn and Du Preez (2013) also found that remuneration was negatively correlated with intention to quit. According to Feldman and Ng (2007), the compensation policies of organisations, including the structure of pension and insurance benefits, affect employee mobility and embeddedness.

Measuring instruments: For transformational leadership, the adapted version of the Multifactor Leadership Questionnaire (MLQ) was selected. The MLQ was originally developed by Bass and Avolio (1995). An item analysis by Krafft et al. (2004) produced good reliabilities for the four transformational leadership subscales in a South African study ($0.72 < α < 0.84$). The transformational leadership scale contains items like 'My immediate supervisor/manager spends time supporting and coaching' and are evaluated on a 5-point Likert scale ranging from 'not at all' to 'frequently, if not always'.

For job resources, an adapted version of the Job Demands-Resources Scale (JDRS), developed by Rothmann et al. (2006), was used including only five dimensions of job resources (34 items), namely, (1) social support, (2) organisational support, (3) growth opportunities, (4) advancement, and (5) job security (Roux, 2014). De Braine and Roodt (2011) examined the job resources model in an information and communication technologies (ICT) organisation in South Africa and found that the internal consistency for the job resources scale was 0.94. The JDRS contains items like 'If necessary, can you ask your colleagues for help?' and are evaluated on a 7-point Likert scale ranging from 'strongly disagree' to 'strongly agree'.

The supportive organisational climate (SOC) questionnaire has four subscales namely, (1) employee commitment, (2) cooperation or coordination, (3) managerial competence, and (4) consistency and customer orientation. Rogg et al. (2001) found coefficient alphas for the four subscales ranging from 0.80 to 0.90. The SOC questionnaire contains items like

'Employees would stay with this organisation even if offered a job elsewhere' and are evaluated on a 5-point Likert scale ranging from 'strongly agree' to 'strongly disagree'.

Job embeddedness has three dimensions namely, (1) organisational sacrifice, (2) organisational links, and (3) organisational fit (Mitchell et al., 2001b). Clinton et al. (2012) measured JE in three UK-based military services and an IT organisation. They found that the on-the-job dimensions of the JE demonstrated high internal reliability (α = 0.90). Ghosh and Gurunathan (2014) found that the three organisation-focussed dimensions (organisational fit, link and sacrifice), when aggregated, formed the overarching JE construct, with an α of 0.83. The JE contains items like 'I fit with this organisation's culture' and are evaluated on a 7-point Likert scale ranging from 'strongly disagree' to 'strongly agree'.

Intention to quit (ITQ) was measured using a three-item scale developed by George and Joji (2011). The three items were: (1) 'I will probably look for a new job next year', (2) 'I often think about quitting', (3) 'I will likely actively look for a new job in the next year'. The items are measured by using a seven-point Likert scale ranging from 'strongly agree' to 'strongly disagree'. In a study conducted by Basar and Sigri (2015), the reliability of the questionnaire was assessed as α = 0.92 and their confirmatory factor analysis (CFA) indicated that 77.73% of variance was explained by one dimension. A study by Queiri et al. (2015) in a Malaysian context found the composite reliability for ITQ to be 0.87. The ITQ contains items like 'I intend to leave the organisation in the next 12 months' and are evaluated on a 5-point Likert scale ranging from 'never true' to 'always true'.

The pay satisfaction questionnaire (PSQ) is an 18-item scale which was developed by Heneman and Schwab (1985). The questionnaire has four subscales namely, (1) level, (2) raises, (3) benefits and (4) structure and admin. The instrument was found to demonstrate sufficient reliability and dimensionality. Judge and Welbourne (1994) found supporting evidence for the four-factor structure of the instrument. The internal consistency of the subscales was found to be excellent (0.96 to 0.82). The PSQ contains items like 'The number of benefits I receive' and are evaluated on a 6-point Likert scale ranging from 'very satisfied' to 'very dissatisfied'.

Phase 2: Research procedure and participants
Participants who were part of Phase 1 were sent a link to the survey via email, using the e-mail addresses which they have voluntarily provided, and were requested to complete the online questionnaire within 2 weeks. Participants were then asked to attend a focus group session to share their experience of the online questionnaire. The voluntary nature and the confidentiality of their participation and the goals of the questionnaire were explained. Thirty-one employees responded to the trial run (Phase 2) of the online questionnaire and 13 of the 31 employees attended the subsequent focus group session.

The respondents confirmed the appropriateness of the measuring instruments, but also proposed incentivising participants to encourage participation, making the questionnaire more visually appealing to Generation Y participants, providing a comment box after each questionnaire, and including a save button should the participant wish to come back to the questionnaire at a later stage. An incentive for respondents to encourage participation through the snowball sampling technique was also implemented. Despite a recommendation to shorten the questionnaire, it was decided to retain all the questions, except for the measure of organisational culture, which was removed in favour of supportive organisational climate.

Phase 3: Research procedure and participants
The participants in Phase 1 were again approached and asked to forward the online questionnaire to other Generation Y IT professionals within their network. Babbie and Mouton (2008) refer to this approach as the snowball technique. The inclusion criteria were that only IT professionals born between 1980 and 2000 and working in the software development IT industry were to be utilised. The original participants were eligible to win a voucher to the value of R1500.00 by referring the survey to their Generation Y colleagues. The referred-to-participants were similarly eligible to win a voucher of R1500.00 through a lucky draw.

The questionnaire consisted of 120 questions, which included a biographical section. The estimated time for the completion of the online questionnaire was approximately 20–30 min.

A total of 319 respondents completed the online questionnaire. Forty-nine of the respondents, however, had to be excluded as they fell outside of the Generation Y cohort and therefore only 270 questionnaires were deemed usable.

The demographics of the sample is presented in Table 1.

English was the home language of the majority of the respondents (59.3%) in the current sample. Most of the respondents (53.3%) in the current sample found themselves at the non-supervisory and/or non-managerial level. While 36% of the respondents held a Diploma, 26% held a Bachelor's degree.

Statistical analysis
Three models were subjected to a series of statistical analyses. Each model was evaluated by means of reliability analyses; goodness-of-fit analyses (CFA); exploratory factor analyses

TABLE 1: Frequency distribution: Race by gender of respondents.

Race	Female	% Total	Male	% Total
Black (African) people	58	21	72	27
Coloured people	10	4	22	8
Indian people	8	3	30	11
White people	15	6	55	20

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(EFA), as well as partial least squares (PLS) evaluations of both the measurement and structural models (Hair et al., 2014).

Ethical considerations

Ethical approval to conduct this study was obtained from the University of Stellenbosch Business School Ethics Committee (SU-HSD-003157).

Results

The first step was the psychometric analysis of the various measurement instruments (Table 2).

The alpha of the JE: organisational fit subscale was 0.87 with an average inter-item correlation of 0.55. In the case of the JE: organisational sacrifice, the alpha was 0.88 with an average inter-item correlation of 0.47. The links subscale of the JE scale appeared to be problematic, with an average inter-item correlation of –0.83 (Model 1). The researchers discovered that it is a formative scale and when it was excluded from the JE scale (Model 2), the alpha for JE rose from 0.41 to 0.83.

The average inter-item correlations of the final scales exceeded the critical value (> 0.30) suggested by Den Hartog et al. (1997) as an indication of a satisfactory degree of homogeneity among the items. The reliability of all the final scales was satisfactory as their alphas ranged between 0.78 and 0.93.

The supportive organisational climate construct was found to be negatively worded and therefore the relationships between this construct and the other constructs had to be interpreted in the opposite direction.

The CFA conducted on all the subscale scores (the three items of intention to quit were also used as subscales) indicated a lack of fit with a root mean square error of approximation (RMSEA) of 0.098. The loading of organisational links with JE showed a negative value of –0.12, indicating poor fit. When organisational links was removed from the model, it led to a worse result, namely a RMSEA of 0.103 (See Table 3).

When evaluating the measurement model without the links subscale (Model 2), the composite reliability of JE, which determines how well the latent variables measure the manifest variables, improved from 0.70 to 0.92 (See Table 2). Another improvement was for the average variance extracted (AVE), where the amount of the variance explained by JE (without organisational links) in its indicators improved from 0.57 to 0.85 (AVE > 0.50) (Hair et al., 2014). A heterotrait-monotrait (HTMT) ratio analysis, which indicates whether two constructs that are pairwise compared are truly distinct, performed on Model 2 indicated that despite the removal of organisational links, JE and job resources were not distinctively different. However, in the outer loadings, we observed an improvement in the path coefficients, with all loadings being statistically significant.

No multicollinearity issues were detected in the structural model. Multicollinearity is an occurrence where one predictor variable in a multiple regression model can be linearly predicted from other variables with a degree of accuracy. The variance inflation factor presents an assessment of how much the variance of the estimated regression coefficient is 'inflated' by the existence of correlation among the predictor variables in the model (Hair et al., 2014).

The observed five significant path coefficients indicated that there were significant path coefficients between job resources and satisfaction with pay; JE and intention to quit; supportive organisational climate and intention to quit; satisfaction with pay and intention to quit; and transformational leadership and supportive organisational climate.

Univariate tests were performed, but no moderating effects were found. As the data did not fit the measurement model according to the CFA, a decision was made to perform EFA at item level, which produced Model 3, discussed in the next section.

Factorially derived model 3

An EFA, with the subscale organisational links excluded, extracted seven factors. The seven factors arising from the factorially derived model were named as follows:

TABLE 3: Goodness-of-fit statistics of Model 1 (with organisational links) and Model 2 (without organisational links).

Model	Chi²	df	RMSEA	GFI	AGFI
1	762.20*	215	0.09	0.80	0.75
2	738.47*	194	0.10	0.80	0.74

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df, degree of freedom; RMSEA, root mean square error of approximation; GFI, goodness-of-fit-index; AGFI, adjusted goodness-of-fit index.

*, $p < 0.01$.

TABLE 2: Summarised reliability analysis and average variance extracted of the measuring instruments in Models 1 and 2.

Construct/scale	Number of items	Average inter-item correlation	Cronbach's alpha (standardised)	Composite alpha	AVE
Intention to quit	3	0.77	0.90	0.94	0.83
Job Resources	24	0.42	0.78	0.84	0.53
Job Embeddedness (with subscales fit, sacrifice and links) – Model 1	21	0.24	0.41	0.70	0.57
Job Embeddedness (without links scale) – Model 2	15	0.70	0.83	0.92	0.85
Organisational climate	21	0.68	0.89	0.92	0.75
Satisfaction with pay	18	0.70	0.90	0.93	0.77
Transformational leadership	19	0.76	0.93	0.95	0.82

Source: Booysen, C. (2019). *Antecedents to the intention to quit amongst Generation Y information technology professionals in software development organisations in South Africa.* Unpublished doctoral dissertation, Stellenbosch University, Stellenbosch, South Africa

AVE, average variance extracted.

- Factor 1 was named JE, with an overlap between JE and job resource items.
- Factor 2 was named satisfaction with benefits.
- Factor 3 was named supportive organisational climate.
- Factor 4 was named transformational leadership.
- Factor 5 was named social support.
- Factor 6 was named job security.
- Factor 7 was named intention to quit.

The factorially derived constructs and their identified items were subjected to item analysis and inter-item correlational analysis (See Table 4).

In terms of the reliability analysis, all the statistics were deemed either excellent or good. In the PLS analysis of the new latent model (Model 3), the composite reliability analyses of all the constructs were deemed highly satisfactory, with reliabilities ranging from 0.90 to 0.97. In the AVE analysis, nearly all the values were greater than 0.50 and therefore deemed satisfactory, with the only exception being the value for job embeddedness, which was 0.49. The HTMT ratios of all the above-mentioned constructs demonstrated that they were distinct. The outer loadings of all the factorially derived constructs were also significant.

The final step in the evaluation of the measurement model of Model 3 was a CFA conducted on the new latent model. The CFA information provided for Model 3 was divided into two sections because the data was too large for the software package to handle. Table 5 indicates that the respective values for RMSEA were 0.80 (90% confidence interval = 0.072; 0.087) and 0.066 (90% confidence interval = 0.063; 0.068). According to Hair et al. (2014), RMSEA values between 0.05 and 0.08 are deemed as reflecting reasonable fit.

TABLE 4: Psychometric analyses of the factorially derived scales.

Scale	N of Items	Average Inter-item correlations	Alpha	Composite alpha	AVE
Transformational leadership	21	0.48	0.95	0.96	0.50
Job embeddedness	150	0.46	0.94	0.95	0.49
Social support	8	0.49	0.88	0.90	0.53
Satisfaction with benefits	24	0.54	0.96	0.97	0.55
Job security	3	0.76	0.90	0.94	0.83
Supportive organisational culture	21	0.51	0.95	0.96	0.52
Intention to quit	3	0.77	0.90	0.94	0.83

Source: Booysen, C. (2019). *Antecedents to the intention to quit amongst Generation Y information technology professionals in software development organisations in South Africa*. Unpublished doctoral dissertation, Stellenbosch University, Stellenbosch, South Africa
AVE, average variance extracted.

TABLE 5: Goodness-of-fit statistics of two sections of Model 3.

Model	Chi²	df	RMSEA	GFI	AGFI
3a	673.81*	249	0.08	0.98	0.98
3b	6374.48*	2621	0.066	0.96	0.95

Source: Booysen, C. (2019). *Antecedents to the intention to quit amongst Generation Y information technology professionals in software development organisations in South Africa*. Unpublished doctoral dissertation, Stellenbosch University, Stellenbosch, South Africa
df, degree of freedom; RMSEA, root mean square error of approximation; GFI, goodness-of-fit-index; AGFI, adjusted goodness-of-fit index.
*, $p < 0.01$.

An interesting observation is that 60% of the variance in JE is explained by the model, while only 40% of the variance in intention to quit is explained by the model (see Table 6).

Relationships within the structural model

The findings regarding the postulated paths are presented in this section (See Figure 2). Reference is also made to literature that either supports or contradicts the research findings.

The following statistically significant relationships were found. According to Peterson and Brown (2005), β coefficients of 0.10 to 0.29 represent a small effect size, and 0.3 to 0.49 a medium effect size. Only three of the path coefficients are of a medium effect size:

- Job security and JE (β = 0.14, $p = 0.01$, small effect).
- Job embeddedness and intention to quit (β = −0.21, $p = 0.01$, small effect).
- Satisfaction with benefits and intention to quit (β = −0.37, $p < 0.01$, medium effect).
- Satisfaction with benefits and JE (β = 0.38, $p < 0.01$, medium effect).
- Satisfaction with benefits and supportive organisational climate (β = −0.22, $p < 0.01$, small effect).

TABLE 6: Variance explained in the Model 3 structural model.

Variables	R Square	R Square adjusted
Intention to quit	0.407	0.394
Job embeddedness	0.611	0.604
Supportive organisational climate	0.141	0.132

Source: Booysen, C. (2019). *Antecedents to the intention to quit amongst Generation Y information technology professionals in software development organisations in South Africa* Unpublished doctoral dissertation, Stellenbosch University, Stellenbosch, South Africa
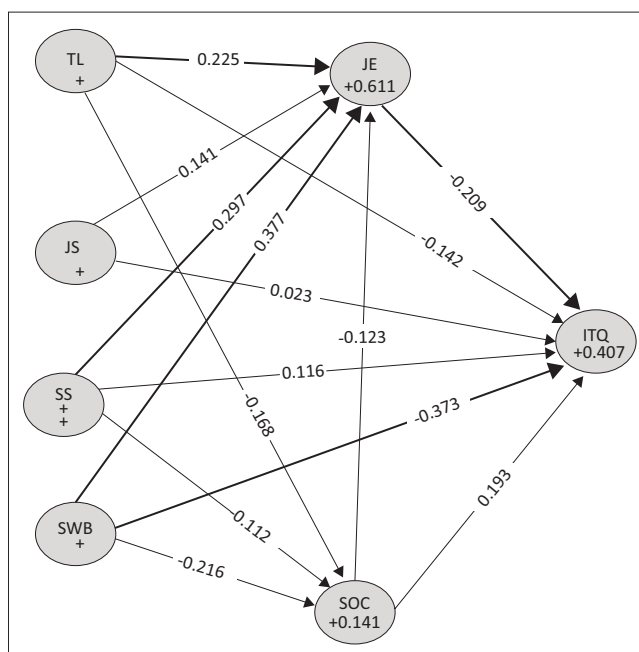
Source: Booysen, C. (2019). *Antecedents to the intention to quit amongst Generation Y information technology professionals in software development organisations in South Africa*. Unpublished doctoral dissertation, Stellenbosch University, Stellenbosch, South Africa

TL, Transformational leadership; JS, Job security; SS, Social support; SWB, Satisfaction with benefits; JE, Job embeddedness; SOC, Supportive organisational climate; ITQ, Intention to quit.

FIGURE 2: The structural model with path coefficients.

- Social support and JE (β = 0.30, *p* < 0.01, medium effect).
- Supportive organisational climate and intention to quit (β = 0.19, *p* < 0.01, small effect).
- Supportive organisational climate and JE (β = –0.12, *p* < 0.01, small effect).
- Transformational leadership and intention to quit (β = –0.14, *p* = 0.03, small effect).
- Transformational leadership and JE (β = 0.23, *p* < 0.01, small effect).
- Transformational leadership and supportive organisational climate (β = –0.17, *p* = 0.03, small effect).

The discussion section examines the nature of the path coefficients in the various models.

Discussion

Outline of the results

The postulated significant positive relationship between transformational leadership and JE (without organisational links) was supported by the coefficients obtained in Models 2 and 3 (small effect). The finding is in accordance with the research of Jauhar et al. (2017) and Mittal (2016). Both Waldman et al. (2015) and Eberly et al. (2017) found that transformational leadership succeeds in embedding employees and assists in achieving a high-quality relationship between leaders which may reinforce retention. The nature of the relationship indicates that the more transformational leadership is displayed, the more likely it would be that Generation Y employees would feel embedded in the organisation. The overarching relationship between job resources and JE was not evaluated in terms of the path coefficients as the HTMT ratios in Models 1 and 2 indicated that the two variables were overlapping and therefore not distinct.

In the factorially derived model (Model 3), social support (consisting of social support and organisational support), as a subconstruct of job resources, was positively correlated with JE (medium effect). Generation Y are inclined to work hard and seize opportunities in the organisation in response to social support. When new employees are made to feel welcome and accepted, it may deepen their sense of JE (Allen & Shanock, 2013; Feldman & Ng, 2007; Henry, 2006). A further finding from the factorially derived model is that job security, which is also regarded as a subconstruct of job resources, is positively correlated with JE (small effect). This finding corresponds with the findings of Feldman and Ng (2007).

The relationship between supportive organisational climate and JE was small but significant. The minus sign indicates that the more supported an employee feels, the more the employee would feel embedded in the organisation (Feldman & Ng, 2007).

The relationship between the newly defined construct of satisfaction with benefits and JE was significant with a medium effect size. This finding is compatible with the findings of Treuren and Frankish (2014). According to Feldman and Ng (2007), the compensation policies of organisations, including the structure of pension and insurance benefits, affect employee mobility and embeddedness.

The relationship between JE and intention to quit in Model 1 (including organisational links), Model 2, and Model 3 was significant with a small effect size. The negative signs indicate that the more embedded an employee is, the less likely he or she would be inclined to leave the organisation. The effect size of the relationship is in contrast with Besich's (2005) claim that JE has greater predictive power in determining intention to quit than the traditional turnover model.

It is safe to conclude that there is enough evidence to show that JE is negatively correlated with intention to quit, but not as strongly as anticipated. In fact, the nomological network succeeds in predicting the stay factor (JE) exceptionally well, but to a lesser extent the intention to quit.

The path coefficient between transformational leadership and intention to quit was small and only significant in Model 3. This finding is in accordance with the research of Jauhar et al. (2017) and Mittal (2016). The univariate test for moderation effects indicated that the relationship between transformational leadership and intention to quit was, however, not moderated by JE. This is in contradiction with the research of Eberly et al. (2017) and Waldman et al. (2015).

The relationships between job resources and intention to quit in Models 1 and 2 were non-significant. This is in contrast to the findings of Kim (2012) and Bergiel et al. (2009). The results indicate that JE did not moderate the relationship between job resources and intention to quit, while Bergiel et al. (2015) have found that JE fully mediated the relationship between compensation and growth opportunities, and partially mediated the impact of supervisor support on intention to quit.

The path coefficients between supportive organisational climate and intention to quit were significant, but JE did not moderate the relationship between supportive organisational climate and intention to quit. Because of the supportive organisational climate scale having reversed items, the current finding needs to be interpreted in the opposite direction, as previously explained.

The path coefficients between satisfaction with pay and benefits and intention to quit were negative and significant in all three models. This finding mirrors the findings of Jung and Yoon (2015), Shields et al. (2012), and Robyn and Du Preez (2013). The results support the expectation that satisfaction with benefits is negatively correlated to intention to quit, but the researcher could not find evidence of the anticipated moderation by JE, which is in contrast with the research of Bergiel et al. (2009).

Limitations and recommendations

It would not be appropriate to generalise the findings of the research to other industries or age cohorts as it focussed only

on Generation Y in the IT sector and specifically on software development organisations in South Africa.

No attempt was made to study cultural differences in the endorsement of the various constructs utilised in the study, which represents an opportunity for further research. The intercultural generalisability of international cohort research is a further important issue that requires participative research at an international level.

The use of self-reported data could be seen as a limitation as self-reported data is associated with several potential sources of bias, like selective memory, exaggeration, acquiescence, demand characteristics, extreme responding and social desirability (Chan, 2008).

The poor performance of the organisational links subscale has detracted from the proper evaluation of the conceptual contribution of JE to the nomological network of variables utilised to explain variation in intention to quit. The factual-numerical nature of the current subscale does not represent the desired qualitative experience of organisational links. A further limitation is that only on-the-job-embeddedness was studied, while the component of off-the-job embeddedness was not included.

The factorial soundness of JE and job resources appears to be questionable, and it is recommended that the factorial integrity of the two constructs be reviewed (Vermoten, 2018). The three-item intention to quit scale also proved to load on more than one factor and warrants further investigation.

Practical implications

In the current study, satisfaction with benefits was found to be one of the key factors contributing to the intentions to quit of Generation Y employees (Jauhar et al., 2017). It would be worthwhile for employers to allow Generation Y employees to repackage their benefits and to allow for customisation. They should also ensure that the so-called 'soft' benefits include learning and development initiatives.

One way in which stakeholders can be proactive in their retention efforts is through 'stay conversations' during which the employee's reason for staying is discussed with the intention of creating more of what is causing people to stay and finding out what people are not happy about (Kleiman, 2018).

From an organisational fit perspective, it would be easier to increase the 'stickiness' when there is a good fit (Jerome et al., 2014). Generation Y have been shown to be attracted to an environment that is very relaxed. Stickiness can also be created through attachment policies, such as a key talent retention bonus to retain the best employees. This deals with the organisational sacrifice associated with what an employee would stand to lose should they leave.

A supportive organisational climate could be created through mentorship programmes, being assigned to

meaningful work, creating a fun workplace, informal dress code policies, customised benefit packages and flexible work hours (Poornima, 2009). It is further important to create a climate where collaboration is encouraged and where red-tape cultures are minimised and reduced. According to Shaw and Fairhurst (2008), learning and development has become a crucial factor and a 'must have' feature in the retention strategies of organisations. Training should include on-the-job training, mentorship and coaching (Meister & Willyerd, 2010) and departmental exchange programmes. As confirmed in the current research project, career advancement and growth opportunities are essential for Generation Y employees.

Managing generational differences in the workplace has become a leadership imperative, according to Jerome et al. (2014). In managing Generation Y, the role of supervisors and managers needs to evolve to that of coach, mentor or facilitator. For this reason, transformational leadership has been identified as one of the most effective leadership styles for leading Generation Y. Transformational leadership development for leaders, managers and supervisors in the workplace is therefore recommended. Training can be provided through a series of workshops and coaching, and pairing good transformational leaders with those who need to acquire the 'know-how' of being a great transformational leader (Cleavenger & Munyon, 2013; Jauhar et al., 2017).

Conclusion

The literature overview identified several possible antecedents of intention to quit among which the construct of JE played a dominant role.

The exploratory sequential approach proved to be an excellent tool in this research which is of a more exploratory nature. The utilisation of a combination of the LISREL-approach and the PLS-approach served to further underscore the exploratory nature of the current research project.

The anticipated primary role of JE in the explanation of intention to quit did not materialise at the level anticipated, although about 40% of the variance in intention to quit was explained. The exceptionally high level of variance (60%) in JE explained by the nomological network of variables was, however, quite interesting.

Despite the limitations, new insights regarding the relationship between transformational leadership, supportive organisational climate, satisfaction with pay, job resources, JE and intention to quit were developed.

This study endeavoured to facilitate the understanding of the intention to quit among Generation Y professionals in the IT sector within the South African context by examining the role of several identified antecedents, with specific reference to the role of JE. The overall aim of the study was accomplished, and the findings opened possibilities for future research.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

C.B. and D.J.M. were involved in the conceptualisation and planning of the methodology. C.B. was responsible for the literature review, data collection and the first draft of the article. D.J.M. took responsibility for the statistical analyses and interpretation, and edited the final version of the article.

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Data availability

The data that support the findings of this study are available from, C.B., upon reasonable request.

Disclaimer

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Appendix 1

Questions to participants during Phase 1

Q1: What made you stay with the organisation up to this point?
Q2: Is there anything that would make you leave?
Q3: Describe the leadership style that you prefer.
Q4: What do you like the most of your organisation's culture?
Q5: What do you like least of your organisation's culture?
Q6: Which aspects of your job make it easier to perform?
Q7: Which aspects of your job make it difficult to perform?

TABLE 1-A1: Five most popular responses of participants to the questions during Phase 1.

Q1	Q2	Q3	Q4	Q5	Q6	Q7
Training and learning opportunities (19%)	Money/salary/ remuneration (26%)	Leader who motivates, provides feedback, and assists with growth (22%)	Positive interactions with colleagues and management (39%)	Non-conducive environment (25%)	Teamwork and supportive environment (27%)	Lack of information and resources to perform (21%)
Organisational support (17%)	Lack of growth opportunities (19%)	Approachable, accessible, and open to ideas and embraces it (19%)	Feeling supported (18%)	Lack of team building initiatives (19%)	Available resources (17%)	Lack of support and not being trusted (15%)
Organisational culture (17%)	Organisational instability (6%)	Trustworthy, honest, transparent, and fair (16%)	Flexibility (13%)	No comment (16%)	Freedom and flexibility (13%)	Formal or informal interruptions and interference (15%)
Job security (9%)	Boredom – no challenging work or less responsibility (6%)	Hands-on leadership (12%)	Knowledge sharing (11%)	Office and facilities (6%)	Role clarity (10%)	Lack of team competence (15%)
Career growth opportunities and mentorship (8%)	Fairness perceptions (6%)	Leads by example (10%)	No micro-management (5%)	No fun activities (6%)	Good leadership and no micro-management (8%)	Job overload (12%)