

Building psychological contract: the role of leader member exchanges

Building
psychological
contract

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Received 11 June 2015
Revised 17 October 2015
29 February 2016
15 April 2016
Accepted 8 May 2016

Abstract

Purpose – The purpose of this paper is to address the building blocks for psychological contract among public institutions in Uganda by investigating the mediation effect of leader-member exchanges (LMX) in the relationship between perceived environmental dynamism and psychological contract.

Design/methodology/approach – The authors use structural equation modelling (AMOS) to investigate the hypotheses.

Findings – LMX is a significant mediator in the association between generational work values and psychological contract and technological advancement and psychological contract among employees in public institutions in Uganda.

Practical implications – At commissions and agencies level, generational work values and technological advancement seem to create better effects on employee-employer unwritten expectations and obligations when they go through LMX. This has important implications for the investment in and outcomes of these LMX endeavours from both the employer and the employee.

Originality/value – The study is one of the pioneers to demonstrate that the presence of LMX reflected in the form of a dyadic relationship helps to extend the positive effects generational work values and technological advancement have on psychological contract.

Keywords Organizational climate, Psychological contract, Generational work values, Leader-member exchanges, Public servants, Technological advancement

Paper type Research paper

1. Introduction

Research on psychological contract has seen a number of changes in focus. According to Conway and Briner (2005) and Petersitzke (2009) the plethora of literature on psychological contract has mainly focussed on psychological contract breach and its attitudinal outcomes. On the other hand, the glut of literature on psychological contract has also dealt with a variety of outcomes. For example, Paracha (2014) and Sturges *et al.* (2005) have found the psychological contract to accentuate organizational commitment; while Bal *et al.* (2010) and Freese and Schalk (2008) have found it to increase organizational citizenship behaviours. In their study, Sutton and Griffin (2004) found the psychological contract to improve employee retention levels whereas Bal *et al.* (2010) identified the psychological contract as a contributor to improve job performance. Psychological contract has also been correlated with intentions to quit (Willem *et al.*, 2010).



According to Argyris (1960), the concept of psychological contract is used to describe an implicit agreement between a group of employees and their supervisor. Rousseau (2012) describes the psychological contract as the set of expectations and obligations that individual employees have as work experiences. In his study of Belgian employees' psychological contract, Willem *et al.* (2010) found that public sector employees attach less importance to career development opportunities and financial rewards promises, and perceive these promises as less fulfilled. These public sector employees also perceive social atmosphere and work-life balance as less fulfilled. Willem *et al.* (2010) further observed gender differences as significant in the fulfilment of the psychological contract. On the contrary, in Uganda, there is an evidence that the public service experiences problems in managing the psychological contract (Ssewanyana *et al.*, 2011). Ssewanyana *et al.* (2011) argue that many employees feel that despite government as an employer stipulating the terms of agreement in the formal employment contract, it falls short of fulfilling some of their unwritten exceptions. Employees assume that salaries will be paid at the end of each month. In some sectors, employees receive their salaries late – some in arrears of three months, while in other government sectors their retirement packages are not ascertained (Ssewanyana *et al.*, 2011). This in essence breaches the psychological contract.

From the discussion above, we gather that while there is substantial literature about psychological contract as a concept (Guest *et al.*, 2007; Rousseau, 2012) and psychological contract breach and its attitudinal outcomes (Coyle-Shapiro and Parzefall, 2008; Freese and Schalk, 2008), there is little on what factors build the psychological contract (Conway and Briner, 2005; Petersitzke, 2009). The purpose of this paper is twofold: first, we build a model that will help researchers and practitioners in the fields of human resource management and organizational behaviour to move beyond existing frameworks when attempting to explain and predict psychological contract. Second, we show that the presence of leader-member exchange (LMX) helps to extend the positive effects generational work values and technological advancement have on psychological contract.

Scholars such as Petersitzke (2009) observed that the key requirement for organizational success in fulfilling the psychological contract is to appreciate the unique and specific contribution of both, the leader and the led. Scholars have further observed that appropriate LMXs are rooted in organizational appreciation of environmental dynamism perceptions of its employees, such as generational work values (Twenge *et al.*, 2010), technological advancement (Schyns and Wolfram, 2008) and organizational climate (Munene *et al.*, 2003). Subsequently, Petersitzke (2009) argues that environmental dynamism perceptions are more likely to yield LMXs, which translate into honoured unwritten expectations and obligations between parties. This study explores these concepts in the public service sector.

The public service sector is highly salient with employees seeking to satisfy the need to realize their ideological values through helping others (Thompson and Bunderson, 2003) and, to a great extent, this is determined by a dynamic environment. There is a degree of self-selection based on the ideological values associated with work in the public sector, reinforcing findings reported elsewhere (Willem *et al.*, 2010). Over the past decade the Uganda Government has made efforts to improve the efficiency and quality of the services they deliver to their employees (Cheema and Rondinelli, 2007; Foley, 2008). Those at the helm of civil service reforms and public administration (UNDP Report, 2010) have ensured that employees are trained in a cost effective manner to meet the demands of a changing environment. These drastic human

resource management measures were aimed at increasing the management of employee environmental dynamism perceptions (Bibanganbah, 1992) with the intention of improving its LMXs and hence the psychological contract. However, what is actually on the ground is contrary to expectations of the public service sector (Ssewanyana *et al.*, 2011). The psychological contract fulfilment of the Uganda public service has continued to deteriorate despite the increased effort to boost the LMXs through improved investment in appreciating employee environmental dynamism perceptions (Ssewanyana *et al.*, 2011). It is therefore unclear whether perceived environmental dynamism boosts the LMXs to influence psychological contract of the public service sector in Uganda.

Whilst it has been theoretically argued that LMXs mediate the relationship between perceived environmental dynamism and psychological contract (Petersitzke, 2009), there is little or inadequate empirical evidence available to support this claim (Ssewanyana *et al.*, 2011). This is so because there is a dearth of literature to support this claim. The aspiration to comprehend the task of LMXs in the relationship between environmental dynamism and psychological contract provoked this study. We aim to provide a more specific and direct appreciation of the LMXs' role in the relationship between perceived environmental dynamism and psychological contract. Moreover, we aim to contribute one explanation of how LMXs transmit the effect of perceived environmental dynamism into psychological contract.

2. Literature review

Whereas extant literature may not agree on the precise definition and shape of perceived environmental dynamism, there is broad consensus that it contains generational work values, technological advancement and organizational climate rewards (Twenge *et al.*, 2010; Westerman and Yamamura, 2007). Such taxonomy permits researchers to delineate perceived environmental dynamism as the appreciation of prevailing organizational climate (Krishnan, 2011; Hofstede, 2001), technological advancement (Kagaari *et al.*, 2010; Freese, 2007) and generational work values (Crumpacker and Crumpacker, 2007; Twenge *et al.*, 2004, 2010; Westerman and Yamamura, 2007) which, when applied, could impact LMXs.

Central to components of perceived environmental dynamism are generational work values (Twenge *et al.*, 2004, 2010; Westerman and Yamamura, 2007). Broadly, there is consensus that generational work values contain extrinsic rewards, intrinsic rewards and social rewards (Borg, 1990). According to Ros *et al.* (1999), work values are beliefs pertaining to desirable end-states, for example high pay or behaviour such as working with people, which, when applied, yield a particular level of LMXs. Ros *et al.* (1999) argue that work values refer to goals in the work setting and are therefore specific. According to Twenge *et al.* (2010), a generation is a cohort of people who share similar birth years and life defining events. The generational school of thought argues that such people who fall in a similar category tend to display similar behaviours. In a study of police staffing challenges in the USA, Wilson (2012) exalts the challenge of generational work values in form of changing generational expectations of careers which impact on their performance. However, performance is an outcome of dyadic relations between the leader and the led (Bal *et al.*, 2010). To date, there is little information available linking generational work values to LMXs.

Schneider *et al.* (2011) argue that organizational climate focusses on how organizational participants observe, experience and make sense of their work environment. According to Munene *et al.* (2003) organizational climate comprises information-related exchanges,

job-related exchanges (JRE), supervisor-related exchanges (SRE), reward-related exchanges (RRE) and gender-related exchanges (GRE). Hsu *et al.* (2010) found a significant relationship between supervisory support and LMX among workers in traditional industries in Taiwan and China. Yet Munene *et al.* (2003) have identified SRE as a measure of organizational climate, strengthening the link between perceived environmental dynamism and LMX. Munene *et al.* further state that the way the changes in an organization are handled determines the actions of both, employees and employers (LMX) towards each other. For example, New Public Management (NPM) introduced in Australia created a negative climate within the public service (Korunga *et al.*, 2003). These NPM reforms were a key source of strain among employees. Many structural, procedural and cultural changes created a new organizational climate, which impacted upon civil servants through a variety of means, including increased levels of employee stress (Korunga *et al.*, 2003), dissatisfaction (Mikkelsen *et al.*, 2000) and declining levels of organizational commitment. This in effect negatively affected the LMXs. This example is critical to the Ugandan situation because the civil service introduces new reforms where employees are subjected to different policies aimed at meeting the demands of a changing environment. Such reforms affect the LMX relationship between the employees and government.

A third issue, central to the components of perceived environmental dynamism, is technological advancement. According to Rheingold (1993), increased information communication technology (ICT) in organizations leads to an exchange process (LMX) that impacts on the performance of individuals through improved efficiency and effectiveness. Vecchio and Appelbaum (1995) support this notion when they insist that good information flow through ICT enhances the dyadic relationship that exists between leader and follower (Schyns and Wolfram, 2008), which results into in-group and out-group performance.

The discussion above indicates that perceived environmental dynamism components foster LMX. Graen (1995) defines LMX as a positive, mutually trustful relationship between the leaders and the led. The LMX theory describes the quality of relationship between an employee and his/her immediate supervisor or leader (Graen and Scandura, 1987). The quality of the relationships between leader and members determines the amount of physical or mental effort, material resources, information and social support that are exchanged between leader and follower (Boyd and Taylor, 1998). According to the LMX theory (Graen, 1995; Graen and Scandura, 1987), supervisors treat their subordinates differentially, leading to the development of relatively stable dyads that range from lower to higher quality exchanges (Sherony and Green, 2002), which in turn result in perceptions of fulfilment of unwritten expectations and obligations of each other.

In a similar vein, Green *et al.* (1996) argue that LMX is an ongoing value-added process aimed at a better performance of individuals and organizations through the diagnosis of leader-follower interactions. Evidence from empirical studies of LMX (Liden and Maslyn, 1998) has commonly shown that followers in high-quality LMX relations have more positive job attitudes and engage in more positive behaviours than those in low-quality relationships. This in essence implies that LMX has an effect on the employee-employer unwritten obligations and expectations of each other (psychological contract). This evidence through LMX suggests that leaders can influence their subordinates' attitudes and behaviours (Likert, 1967). For example, leaders influence subordinates via communication of organizational ideals and values, and through influencing followers' sense making (Brown and White, 2009). In addition, leaders can utilize their formal (legitimate authority) and informal power (expertise, knowledge of the job)

(McGregor, 1960; Raven and French, 1958) to influence perceptions of fulfilled employee-employer unwritten obligations and expectations.

The extant literature affirms that the LMXs and psychological contract are largely influenced by perceived environmental dynamism (Coyle-Shapiro and Shore, 2007). However, this is far from sufficient empirical research investigating the practical role of LMXs on the relationship between perceived environmental dynamism and psychological contract. The mediating effect of LMX and the extent it links perceived environmental dynamism to psychological contract is limited in the literature. Most previous literature addressing perceived environmental dynamism has ignored the significance of LMX on the relationship between perceived environmental dynamism and psychological contract (Brynjolfsson and Mendelson, 1993; Kagaari *et al.*, 2010). Therefore, the mediating effect of LMXs on the association between perceived environmental dynamism and psychological contract in the public service sector is still a controversial matter that calls for further exploration.

This leads to the following hypotheses:

- H1. LMXs mediate the relationship between generational work values and psychological contract in the public service sector.
- H2. LMXs mediate the relationship between organizational climate and psychological contract in the public service sector.
- H3. LMXs mediate the relationship between technological advancement and psychological contract in the public service sector.

3. Methodology

Below, we provide the research design, population, sample size and sampling procedure. We also discuss the data collection instrument, measurement of variables, validity and reliability.

3.1 Research design

The study adopted a cross-sectional descriptive and analytical design, examining generational work values, organizational climate, technological advancement, LMXs and psychological contract for public servants working in commissions and agencies in Uganda.

3.2 Population, sample size and sampling procedure

The study population consisted of 2,590 employees. The employees form the unit of analysis. We sought 95 per cent confidence level and computed a sample of size of 346 employees based on sample size determination guidelines by Yamane (1973). To obtain the 346 respondents, the researchers used a proportionate stratified random sampling approach. Data were obtained from both, supervisors and subordinates. The response rate for the main survey was 61.5 per cent. In this paper we present results derived from a sample of 208 usable questionnaires. The deviation from the desired sample size of 208-346 did not cause bias, given that the standard deviations remained low, i.e. none of them was above 1.0 (Table III).

Of the 208 respondents; the age group was concentrated on generation Y (51.5 per cent); while generation X accounted for 35.1 per cent. Meanwhile, generation baby boomers accounted for 12 per cent and traditionalists accounted for 1.4 per cent. Of the participants, 57.7 per cent were male and 42.3 per cent were female. In total, 49.5 per cent had attained a degree, 28.4 per cent a master's degree and above, 16.8 per cent a diploma

and 5.3 per cent a certificate. In terms of tenure, 30.8 per cent had spent three to five years with their organization; 28.4 per cent below two years, 24.5 per cent between six and ten years, 11.5 per cent between 11 and 15 years and 7.2 per cent above 15.

3.3 Data collection instrument, measurement of variables, common methods variance, validity and reliability

3.3.1 Data collection instrument and measurement of variables. We used a questionnaire anchored on a five-point Likert scale. The response categories ranged from “1-strongly disagree” to “5-strongly agree” for all the exogenous variables and from “1-not at all” to “5-to a greater extent” for the endogenous variable.

We measured psychological contract using the Psychological Contract Inventory (Rousseau, 2012) and the Psychological Contract Across Employment Situations (PSYCONES) (Isakson, 2005). The tool measured psychological contract in terms of employee obligations (11 items), employer obligations (14 items) and state of psychological contract (nine items). Employer obligations included items like “My organization promised to ensure fair treatment by the managers and supervisors” while employee obligations had items like “I have promised and committed myself to respect the rules and regulations of the company”. State of psychological contract had items like “I feel that organizational changes are implemented fairly in my organization”.

LMXs were measured in terms of professional respect, affect and contribution following Graen (1995). Professional respect (seven items) was measured by items like “I feel free to discuss with my supervisor the problems and difficulties in my job without jeopardizing my position or having it held”. Affect (six items) was measured by items like “My supervisor is the type of person one would like to have as a friend” while contribution (five items) was measured by items like “I can count on my manager to ‘bail me out’ even at his or her own expense when I really need it”. Both supervisors and employee rated each other in terms of LMXs.

Organizational climate was measured by Munene *et al.* (2003). The tool clusters organizational climate into different attributes such as information bureaucracy-related experiences (IBRE) (13 items), JRE (six items), GRE (five items), RRE (five items) and SRE (five items). IBRE had items like “Managers do sufficiently encourage divergent views” while JRE had items like “My organization follows stipulated schedules in the operations manual with regard to orientation”. GRE had items like “Affirmative action has a benefit of keeping in mind serious strengths in the performance of women in high positions”; RRE had items like “Casual workers are paid adequate money and are entitled to any allowances, which the full time staff gets” and SRE had items like “Supervisors always give feedback without waiting for appraisal time”.

Generational work values measured extrinsic rewards (five items), social rewards (12 items) and altruistic rewards (nine items) (Johnston *et al.*, 2006; Twenge *et al.*, 2010). Extrinsic rewards had items such as “I like a job that offers a reasonably predictable, secure future” while social rewards had items like “I like a job where we work as team to accomplish tasks”. Altruistic rewards had items such as “I like a job where I can make significant investment to the organization”.

Technological advancement was measured in terms of technological innovation (12 items) and information technology (eight items) (Kagaari *et al.*, 2010). Technological innovation had items like “My institution is a benchmark for new technological ideas in this industry/field” while information technology had items like “In this institution, ICT staff process requests for changes to existing systems promptly”.

The researchers included job level (employee vs supervisor) as a control variable. According to Tetrick (2004), the supervisor acts as the direct face of the employer.

3.3.2 Validity and reliability. As guided by Anderson and Gerbing (1988) and Medsker *et al.* (1994), we followed a two-step approach, i.e. we used AMOS (version 18.0) to conduct a confirmatory factor analysis (CFA) to come up with a measurement models for our variables to confirm these dimensions and test the fit of theoretically grounded models, and constructed a structural equation model (SEM) to test the hypotheses developed from the literature review (Joreskog and Sorbom, 2005). Consistent with the works of Schermeller-Engel *et al.* (2003), Fornell and Larcker (1981) cut-off points of indices for acceptability of model fit were as indicated in Table I.

Results from CFA for all the measurement models conform to acceptable guidelines (Table I). Convergent validity was established and measured by examining fit indices. The normed fit index (NFI) (> 0.95) indicates acceptable convergent validity while the AVE (> 0.5) indicates acceptable discriminant validity (Brown and White, 2009). The findings confirmed the validity of the final models with excellent model fit statistics for this construct measure as reported in Table I. The composite reliability for all variables under study is greater than 0.70 (Table III), which is within the acceptable level. For discriminant validity, the results indicate that the construct’s reliability were greater than the correlation coefficients as reported in Table III, thus indicating the measurement scales’ ability to discriminate between measures that are supposed to be distinct (Gaski, 1984; Hair *et al.*, 2010). Furthermore, the AVE were greater than all corresponding construct correlations (Tables I and III), thus providing additional evidence of discriminant validity of the constructs.

3.4 Common methods bias (CMB)

CMB is a problem in cross-sectional data. The researchers tried to address this phenomenon by using methodological separation of measurement variables and protecting respondent anonymity (Podsakoff *et al.*, 2003). The researchers also applied the marker variable approach as a *post hoc* statistical technique (Richardson *et al.*, 2009; Lindell and Whitney, 2001) to detect CMB. Using flexibility as an ideal marker (for it had no expected theoretical relationship with substantive variables – because according to Lin and Chang, 2009, flexibility is a measure of adaptability, which variable is totally unrelated to the variables under study), the resulting “corrected” correlations became closer approximations to true relationships than were the uncorrected correlations; implying that CMB present in this data set was insufficient to bias results (Choi and Chen, 2007). The challenge with this approach is that even though multiple statistical detection and correction techniques have been proposed and used in published work, there is no systematic empirical evidence regarding their accuracy. However, the strengths of the approach are that because it should

Variable	χ^2	df	χ^2/df	<i>p</i>	NFI	GFI	AGFI	TLI	RMSEA	AVE
Cut-off point	> 0.5		≤3	≥0.05	≥0.95	≥0.95	≥0.90	≥0.95	≤0.08	> 0.5
Generational work values	4.28	4	1.07	0.35	0.99	0.99	0.98	0.99	0.02	0.55
Technological advancement	7.52	4	1.88	0.11	0.98	0.99	0.95	0.97	0.07	0.56
Organizational climate	31.98	21	1.52	0.05	0.96	0.97	0.93	0.98	0.05	0.66
Leader-member exchanges	18.73	17	1.10	0.34	0.98	0.98	0.96	0.99	0.02	0.58
Psychological contract	8.01	4	2.00	0.09	0.99	0.99	0.95	0.98	0.07	0.70

Table I.
Summary statistics
for all the variables
measurement models

be theoretically unrelated to one of the substantive variables, any observed correlation between the two cannot be due to a true relationship and, thus, must be due to something else the variables have in common (i.e. CMB).

4. SEM results

We proceeded to use the results from the CFA models to construct a SEM that allowed us to test our hypotheses. According to Jöreskog and Sörbom (2005), Sobel's (1982) theory on testing for mediation has been incorporated in SEM.

The researchers tested several competing models – the mediated and non-mediated model (Table II) to establish, which was the better fit of our data (Hair *et al.*, 2006). The researchers compared the SEM model using: overall model fit as measured by CFI, percentage of hypothesized significant paths, amount of variance explained as measured by squared multiple correlations, and parsimony assessed by the parsimonious NFI (Morgan and Hunt, 1994). The mediated model emerged as the better fit of the data (Table II).

In comparison to the mean, the standard deviations range from 0.68 to 0.94 (Table III). These small standard deviations relative to the mean values indicate that the data points are close to the means – a manifestation that the mean represents the data observed (Field, 2009).

	Non-mediated model	Mediated model
LMXCH←GENWORKVAL		0.29***
LMXCH ← ORGCLIME		0.18**
LMXCH ← TECHNOADVA		0.27***
PSYCHONTRA ← GENWORKVAL	0.50***	0.45***
PSYCHONTRA ← ORGCLIME	0.11	0.07
PSYCHONTRA ← TECHNOADVA	0.16**	0.11
PSYCHONTRA ← JBL_1	-0.01	0.02
PSYCHONTRA ← LMXCH		0.19**
χ^2	72.51	3.78
df	5	1
<i>p</i>	0.00	0.05
CFI	0.65	0.99
NFI	0.65	0.98
RMSEA	0.00	0.06
SMC for LMX	0.00	0.25
SMC for Psycont	0.34	0.36

Table II.
Results of competing models

Note: Standardized coefficients for the competing models. ***,**Correlation is significant at the 0.01 and 0.001 levels, respectively

Table III.
Descriptive statistics and inter-correlations

	Mean	SD	1	2	3	4	5
Generational work values (1)	3.33	0.90	0.89				
Technological advancement (2)	3.70	0.68	0.091**	0.88			
Organizational climate (3)	3.33	0.81	-0.202**	0.009**	0.96		
Leader-member exchange (4)	3.82	0.70	0.115**	0.168**	0.001**	0.94	
Psychological contract (5)	3.69	0.94	0.397**	-0.029**	-0.135	0.182**	0.95

Notes: The diagonals display the reliabilities. **Correlation is significant at the 0.01 level (two-tailed)

The researchers proceeded to examine support for or against the hypothesized relationships using the mediated model results: see standardized total effects, direct effects and indirect effects results (Table IV) and regression coefficients (Table II).

In *H1* the researchers sought to establish whether LMXs mediate the relationship between generational work values and psychological contract. Results established differing total and direct effect values for generational work values on psychological contract, that (Table IV), meaning a mediation effect exists (Hair *et al.*, 2006). These findings imply that since generational work values did not lose all predictive powers on psychological contract ($R^2 = 0.50$, $CR > 1.96$) (Table II) with the introduction of LMXs, but remained with a significant prediction ($R^2 = 0.45$, $CR > 1.96$), then there exists a partial mediation effect of LMXs on the relationship between generational work values and psychological contract (Zack *et al.*, 2009) hence lending support to *H1*.

H2 sought to establish whether LMXs mediate the relationship between organizational climate and psychological contract. Although the results established differing total and direct effect values for technological advancement on psychological contract (Table IV); organizational climate did not have a significant predictive power on psychological contract ($R^2 = 0.12$; $CR < 1.96$) (Table II). Hence, we could not go ahead to test for mediation – meaning that *H2* was not supported.

H3 sought to establish whether LMXs mediate the relationship between technological advancement and psychological contract. The results established differing total and direct effect values for technological advancement on psychological contract (Table IV). However, based on the findings in Table II, the predictive power of technological advancement on psychological contract ($R^2 = 0.16$; $CR > 1.96$) becomes insignificant ($R^2 = 0.11$; $CR < 1.96$), implying the contribution of technological advancement towards psychological contract is totally eroded with the introduction of LMXs. The findings imply a full mediation effect of LMXs on the relationship between technological advancement and psychological contract. The findings lend support to *H3*.

5. Discussion

Using the perspective of LMX theory, the researchers proposed and examined the mediating role of LMXs on the relationship between generational work values and psychological contract among public service employees in commissions and agencies in Uganda. On examining the results of the mediation, the findings indicate a mediation effect of LMXs on the relationship between generational work values and

	Jbl_1	Technoadva	Orgclime	Genworkval	LMXch
<i>Standardized total effect</i>					
LMXch	0.00	0.27	0.18	0.29	0.00
Psychontra	0.02	0.16	0.11	0.50	0.19
<i>Standardized direct effects</i>					
LMXch	0.00	0.27	0.18	0.29	0.00
Psychontra	0.02	0.11	0.07	0.45	0.19
<i>Standardized indirect effects</i>					
LMXch	0.00	0.00	0.00	0.00	0.00
Psychontra	0.00	0.05	0.03	0.05	0.00

Table IV.
Standardized total,
direct and indirect
effects for mediated
model

psychological contract. In light of these study findings, generational work values may not influence psychological contract without LMXs in commissions and agencies in the public service in Uganda. The researchers argue that LMXs are critical to building generational work values that is significant in making psychological contract work.

This study therefore posits that LMXs take the inputs from generational work values and translates them into the psychological contract; meaning that the process of LMXs translates employee generational work values (i.e. perception in availability of chances for advancement and promotion, having an interesting job, chances for creativity, learning new things and new skills) into psychological contract (fulfilled obligations to improve future prospects, flexibility in matching work and non-work roles, catering for best interests of employee). This implies that for generational work values to have an effect on psychological contract, LMXs are required so that generational work values become more effective in predicting psychological contract. If organizations appreciate generational work values, then LMXs will strengthen the bond between workers and managers which could result into employee perception that the organization is fulfilling its obligations. It has hence become apparent that generational work values are essential in as far as the exhibition of LMXs is concerned. Also, we note that the LMXs so exhibited in commissions and agencies appear to lead to psychological contract.

The researchers also proposed and examined the mediating role of LMXs on the relationship between technological advancement and psychological contract among public service employees in commissions and agencies in Uganda. The results show that the role of technological advancement is significant in predicting psychological contract in the public service's commissions and agencies through LMXs. Furthermore, a mediation effect of LMXs on the relationship between technological advancement and psychological contract exists. Therefore, technological advancement may influence psychological contract through LMXs in commissions and agencies in the public service in Uganda. This implies that LMXs are critical to building technological advancement for psychological contract in the public service.

The study findings indicate that the predictor variable lost all of its predictive power on the criterion variable, implying a full mediation effect exists of LMXs on the technological advancement – psychological contract relationship. In view of this finding, it is strongly argued that organizations need to create variations in LMXs on the reliance of technological advancement in order to improve psychological contract. This creation of LMXs should be built on the appreciation of the differing technological advancement elements such as innovation in technology and communication technology that impact psychological contract. This research's findings therefore posit that LMXs take the inputs from technological advancement and translate them into the psychological contract, meaning that the process of LMXs (prompt handling of employee complaints, catering for employee interests, creating favourable conditions for employee human resource issues) translates employee technological advancement (perception that management's programmes promote use of IT, the institution provides avenues for research and design in IT, continuous technological innovation) into psychological contract. In this study the researchers argue that for technological advancement to have an effect on psychological contract, one needs LMXs so that technological advancement becomes more effective in predicting psychological contract. If organizations engage into technological advancement, then LMXs will strengthen the bond between workers and managers, which could result into employee perception that the organization is fulfilling its obligations.

6. Practical implications

Arising out of these findings, the research provides a strong basis to argue that organizations need to create LMXs on the reliance of both generational work values and technological advancement in order to improve management of employer expectations and obligations and the state of the psychological contract. This creation of LMXs should be built on the appreciation of the differing generational work values, such as intrinsic rewards and social rewards and technological advances, such as the perception that management's programmes promote use of IT. The institution provides avenues for research and design in IT, and continuous technological innovation that improve the psychological contract.

From this study, we demonstrate that if employees believe that their generational work values are catered for by the organization and the organization engages in technological advancement, this results into an obligation on the employee to return the goodwill by performing beneficial behaviours towards the organization and its members, hence honouring the psychological contract. The results highlight the fact that honouring employee perceptions of the dynamic environment, such as changing and differing generational work values and technological advancement, can be an impetus for LMXs and psychological contract management. This contributes to the literature on both the LMXs and psychological contract concepts.

The results of this study also provide strong empirical support for our hypothesis that the effects of both generational work values and technological advancement on psychological contract occur through the mediation of LMXs; which implies that organizations can enhance the contribution of generational work values and technological advancement towards psychological contract by introducing LMXs. Our results indicate that psychological contract can be viewed as a result of the LMXs process in which a workable dyadic relationship between employer and employee at the work place is an outcome of fulfilled generational work values and technological advancement. In this study, we recognize that changes in both generational work values result into positive changes in both LMXs and psychological contract. This means that individual cohorts who share the same birth years and life defining events have differing work values, suggesting that management appreciation of such work values will help manage the psychological contract through LMXs. Finally, if organizations engage into technological advancement, then LMXs will strengthen the bond between workers and managers, which could result into employee perceptions that the organization is fulfilling its obligations.

7. Theoretical implications

The results enrich LMX studies by confirming that appreciation of generational work values is a key antecedent of LMX. Second, these findings also enrich LMXs theory by confirming that appreciation of technological advances is a key antecedent of LMXs. Third, although researchers have recently begun to investigate the link between generational work values and employee-employer fulfilment of obligations (Twenge *et al.*, 2010), and technological advancement and several performance indicators, our study is one of the pioneers to integrate generational work values and technological advancement with the literature on psychological contract by demonstrating the salient mediating role of LMXs. These findings are valuable because we demonstrate that the presence of LMXs reflected in the form of a dyadic relationship helps us extend the positive effects generational work values and technological advancement have on the psychological contract.

8. Conclusion

We conclude that LMXs mediate the relationship of building psychological contract where managers in commissions and agencies can use generational work values and technological advancement to cause LMXs, which ultimately lead to psychological contract. This conclusion is in consonance with the causal chain of mediation where the changes in the independent variable (generational work values and technological advancement) lead to changes in the mediating variable (LMXs), with the mediator carrying the effect of generational work values and technological advancement to the criterion variable (psychological contract). As a result, we have to acknowledge that in order for generational work values and technological advancement to influence the level of psychological contract in Uganda's public service commissions and agencies, there is a need for LMXs as a partial and as a full mediator, respectively.

9. Limitations and recommendations for further research

The findings of this study are based on a sample of one country only. This may not be fully representative of all developing countries' public service sectors and necessitates replications in other developing countries with different socio-economic backgrounds to be able to generalize the research findings. Our study is also at the low end in terms of sample size suitability for SEM. Despite this challenge, the study fulfils the "rule of thumb" that requires ten observations per indicator as sufficient in setting a lower bound for the adequacy of sample sizes (Kahai and Cooper, 2003). Despite possible limitations, the results of the present study provide valuable insights into the effect of generational work values, technological advancement and LMXs on psychological contract by: first, revealing the mediation power of LMXs on technological advancement and generational work values in building psychological contract; second, examining psychological contract phenomenon in a less studied public service sector; and third, synthesizing ideas from various sources of literature thus creating a shopping centre of literature pertaining to psychological contract.

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Further reading

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Appendix. Questionnaire items

Psychological Contract

Employer Obligations

ERO1	My organization promised to ensure fair treatment by the managers and supervisors
ERO2	My organization promised to provide me with a career
ERO3	My organization promised to be flexible in matching the demands of my non-work roles with work roles
ERO4	My organization promised good pay for the work that I do
ERO5	My organization promised to improve my future prospects
ERO6	My organization promised a good working atmosphere
ERO7	My organization promised me with opportunities to advance and grow
ERO8	My organization promised me with a safe working environment
ERO9	My organization promised to work together with me in a pleasant way
ERO10	My organization promised to help me deal with problems I encounter outside work
ERO11	My organization promised me a job that is challenging
ERO12	My organization promised to provide me with interesting work
ERO13	My organization promised to allow me to participate in decision making
ERO14	My organization promised me with a reasonably secure job

Employee Obligations

EEO1	I have promised and committed myself to respect the rules and regulations of the company
EEO2	I have promised and committed myself to develop new skills and improve my current skills
EEO3	I have promised and committed myself to develop my skills to be able to perform this job well
EEO4	I have promised and committed myself to turn up on time
EEO5	I have promised and committed myself to meet the performance expectations in my job
EEO6	I have promised and committed myself to provide the organization with innovative suggestions for improvement
EEO7	I have promised and committed myself to accept an internal transfer if necessary
EEO8	I have promised and committed myself to take responsibility for my career development
EEO9	I have promised and committed myself to show loyalty to my organization
EEO10	I have promised and committed myself to assist others with their work
EEO11	I have promised and committed myself to work enthusiastically on jobs I would prefer not to be doing

<i>State of Psychological Contract</i>	
SPC1	In general I trust this organization to keep its promises and commitments to me and other employees
SPC2	I feel that organizational changes are implemented fairly in my organization
SPC3	I trust my senior managers to look after my best interests
SPC4	I feel grateful
SPC5	Overall I feel rewarded fairly for the amount of effort I put into my job
SPC6	I feel happy
SPC7	I feel I am fairly paid for the work I do
SPC8	I trust my immediate manager to look after my best interests
SPC9	I feel fairly treated by managers and supervisors

Generational Work Values

I like:

Social Rewards

SR1	A job where I have the chance to be creative
SR2	A job where we work as team to accomplish tasks
SR3	A job where we feel concerned as a group when things do not go well
SR4	A job where I can see the results of what I do
SR5	A job where I can help others achieve their goals to the maximum
SR6	A job where I get a chance to participate in decision making
SR7	A job that is interesting to do
SR8	A job where I can learn new things, learn new skills
SR9	A job that provides up-to-date information on technological advances
SR10	A job where I do not have to pretend to be a type of person that I am not
SR11	A job where the skills I learn will not go out of date
SR12	A job that is worthwhile to society

Altruistic Rewards

AR1	A job that gives me an opportunity to be directly helpful to others
AR2	A job that gives me a chance to make friends
AR3	A job that provides me with a chance to earn a good deal of money
AR4	A job that permits contact with a lot of people
AR5	A job where I contribute to the success of the organization
AR6	A job that has high status and prestige
AR7	A job that most people look up to and respect
AR8	A job where the chances for advancement and promotion are good
AR9	A job where I can make significant investment to the organization

Extrinsic Rewards

ER1	A job that allows me to use the computer all the time
ER2	A job where we freely [as employees] interface on face book
ER3	A job that provides the latest technological gargets to its employees
ER4	A job the internet speed is high
ER5	A job that offers a reasonably predictable, secure future

Technological Advancement

Information Technology

INF1	Senior ICT management has visionary leadership in the exploitation of technology in this institution
INF1	In this institution, ICT staff process requests for changes to existing systems promptly
INF2	ICT staff is able to diagnose problems accurately in this institution
INF3	ICT hardware is up-to-date in my institution
INF4	Clear resource plans exist for new systems development in this institution
INF5	The ICT software is up-to-date in my institution
INF6	ICT support staff understand the users' business in this institution
INF7	Those who provide ICT service are responsive to changing user needs in my institution
INF8	There is a high level of user participation in the planning of new user systems and developments

Technological Innovation

INN1	All employees have access to Internet in this institution
INN2	In my institution, laws relating to ICT (electronic commerce, digital signatures, consumer protection) are well developed and enforced
INN3	Continuous innovation plays a major role in generating revenue for this institution
INN4	My institution is a benchmark for new technological ideas in this industry/field
INN5	ISPS are sufficient to ensure high quality, infrequent interruptions and low prices for my institution
INN6	Management programs are successful in promoting the use of ICT in my institution
INN7	My institution performs well in technology relative to other institutions
INN8	There is a strong senior management commitment to ICT in this institution
INN9	My institution spends high on Research & Design relative to other institutions
INN10	Management encourages and rewards those who innovate new ideas in technology
INN11	My institution collaborates in Research & Design with local universities
INN12	Employees take initiative to innovate new technological ideas in my organization

Organizational Climate

Information Bureaucracy Related Experiences

IBRE1	There is limited bureaucracy which enables flexibility and problem solving
IBRE2	Managers do sufficiently encourage divergent views.
IBRE3	There is good communication flow, that promotes better organization /planning
IBRE4	Information released is shared with all concerned parties.
IBRE5	On many occasions, policy and management issues that concern staff have been discussed and concluded in the presence of such staff
IBRE6	Managers do sufficiently encourage divergent views
IBRE7	There is adequate dependency on the policy per se with objective analysis with the situation on the ground
IBRE8	There is accessibility to organizational information as regards to literature, policies and programs
IBRE9	Top management listens to what the employees have to say about their work
IBRE10	In this institution, we are allowed to make our own decisions
IBRE11	In this organization, decision making is controlled by the majority of staff
IBRE12	We find it easy to advise people who are senior to us
IBRE13	There is no favoritism by management in the distribution of opportunities for training, promotions and upgrades

Supervisor Related Experiences

SRE1	Our supervisors behave as advisors; they usually guide the subordinates.
SRE2	Supervisors quickly respond to employee's requests
SRE3	Supervisors always give feedback without waiting for appraisal time
SRE4	There are clear and direct reporting lines in this organization
SRE5	The whole supervision exercise has been turned into advising, correcting and providing solutions

Reward Related Experiences

RRE1	Promotions, transfers and rewards are easy to get and are timely
RRE2	Casual workers are paid adequate money and are entitled to any allowances, which the full time staff gets
RRE3	Supervisors who go to the field often get risk allowance
RRE4	In this institution, salary scales have reasonable gaps between grades
RRE5	The COLA (Cost of living allowance) and performance merits are adequate

Gender Related Experiences

- | | |
|------|--|
| GRE1 | Affirmative action has a benefit of keeping in mind serious strengths in the performance of women in high position |
| GRE2 | Adequate attention is given on women's issues |
| GRE3 | This organization tends to balance both men and women for most posts |
| GRE4 | When a child is sick and a woman asks for permission to take the kid for treatment, she is allowed |
| GRE5 | Women are looked at as a productive group despite the role they play as mothers and other domestic work at home |

Job Related Experiences

- | | |
|------|---|
| JRE1 | My organization follows stipulated schedules in the operations manual with regard to orientation |
| JRE2 | Our job descriptions do not include "any other duties..."; so supervisors never take advantage of that to assign us more work including their own |
| JRE3 | It is quite clear what an officer's or assistant's work is |
| JRE4 | Top management absolutely takes into account the employees' capacity to think, deliver and be innovative |
| JRE5 | There is no pressure from above superimposed on my own work plans |

Leader-Member Exchanges

Professional Respect

- | | |
|-----|---|
| PR1 | My supervisor recognizes my potential for advancement within the organization |
| PR2 | I am impressed by my supervisors knowledge of his job |
| PR3 | My supervisor understands my job problems |
| PR4 | My supervisor is satisfied with what I do |
| PR5 | I feel free to discuss with my supervisor the problems and difficulties in my job without jeopardizing my position or having it held against me |
| PR6 | My supervisor is open with me on my strength and weaknesses |
| PR7 | Regardless of how much power my manager has built into his/her position, he/she would be personally inclined to help me solve problems in my work |

Affect

- | | |
|------|--|
| AFF1 | My supervisor willingly listens to whatever is on my mind whether it is personal or professional |
| AFF2 | My supervisor shows that he/she cares about me as a person |
| AFF3 | My supervisor would come to my defense if I were attacked by others |
| AFF4 | My supervisor is a lot of fun to work with |
| AFF5 | I like my supervisor very much as a person |
| AFF6 | My supervisor is the type of person one would like to have as a friend |
-

	<i>Contribution</i>
CB1	When my supervisors takes decisions that seem to be against my interests I trust that the supervisor's decision was justified by other considerations
CB2	My supervisor expects me to fit in with the accepted ways of doing things, in other words, "don't rock the boat"
CB3	My opinion has an influence on my manager, and his/her opinion has an influence on me
CB4	I can count on my manager to "bail me out" even at his or her own expense when I really need it
CB5	My manager has enough confidence in me; he/she would defend & justify my decisions if I were not present to do so

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