

Effect of Job Satisfaction on Organizational Commitment: Evidence from Employees of a Special Mission Organization in Rwanda

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ABSTRACT

This study assessed the effect of job satisfaction and demographic characteristics on the organizational commitment of employees (N = 119) in Rwanda. The study adopted a cross-sectional survey design for data collection. Descriptive, correlation, standard, and hierarchical regression analysis techniques were used to carry out the analysis. The effect of intrinsic job satisfaction was positive and significant on overall organizational commitment, continuance, and normative commitment, but negative and significant on affective commitment. The opposite was the case for extrinsic job satisfaction, although the effect on affective commitment was insignificant. The effect of satisfaction with the work environment was positive but only significant on affective commitment and significantly negative on continuance commitment. Job satisfaction dimensions had a significant unique effect on the overall and all the organizational commitment dimensions, even after controlling for the effect of the five demographic characteristics. From the results, it is recommended that for the organization to enhance employees' commitment, management should adopt measures that enhance job satisfaction among them. This study adds to the much-needed empirical evidence from the developing world, but more importantly, from a special mission organizational context, consistent with the interconnectedness of organizations across the globalized world.

Keywords: *Organizational commitment, intrinsic job satisfaction, extrinsic job satisfaction, working environment, special mission organization*

INTRODUCTION

The performance of a service organization, in carrying out its societal obligations depends on, among other factors, its resource endowment,

one of which is its human resource (Brown et al., 2016). However, the contribution of the human resource to the organization's performance depends on how efficient this resource is managed. It is its management that induces various job attitudes among the employees, two of which are their organizational commitment and job satisfaction (Robbins and Judge, 2018). Organizational commitment is an attitudinal relationship between an individual and the organization, representing a relative strength of the individual's psychological identification and involvement with the organization (Mowday et al., 1979). This conceptualization is referred to as affective commitment, with three factors of identification, involvement, and loyalty (Banai et al., 2004). Angle and Perry (1981) added the continuance commitment dimension in which individuals commit to the organization, not necessarily because of their general positive feeling about it, but because of the need to protect their extraneous interests (pensions, family concerns, etc.). Becker (1960) referred to these extraneous interests as "side-bets" or simply the investments that employees make to the organization, the value of which grows with their age and tenure. Employees may, therefore, commit to (stay with) the organization in fear of losing this value. Meyer and Allen (1991) added a third dimension – normative commitment - arguing that individuals may also remain with the organization as an obligation, making the organizational commitment a three-dimensional concept. Subsequently, Meyer and Allen (1997) summarize organizational commitment as follows:

“... individuals who have strong affective commitment remain in the organization because they feel that “they want to”; some with a stronger normative commitment remain because “they ought to”; and those with strong continuance commitment remain because “they need to” (p.11)

Employees' organizational commitment is important because committed employees are a source of organizational performance and efficiency, which in turn leads to productivity enhancements (Gunlu et al., 2010). However, achieving an appropriate level of organizational commitment among employees requires managers not only to identify its antecedents but also to balance them within the organization. Job attitudes are among these antecedents, but the most actively researched of them is job satisfaction (Saridakis et al., 2018).

Locke (1969, p.317) defines job satisfaction as “the pleasurable emotional state resulting from the appraisal of one’s job as achieving or facilitating one’s job values.” Locke also defines job dissatisfaction as “the unpleasurable emotional state resulting from the appraisal of one’s job as frustrating or blocking the attainment of one’s job values.” It is an affective, emotional reaction to the job resulting from the employees’ evaluation of the actual outcomes against the required outcomes (Hirschfeld, 2000), in an attempt to achieve a balance with their work environment (Weiss et al., 1967). Subsequently, Hirschfeld (2000) classified job satisfaction into two dimensions. The first dimension is intrinsic job satisfaction (satisfaction with job tasks such as variety and autonomy). The second is extrinsic job satisfaction (satisfaction with aspects that have little to do with the content of the work itself, such as pay, work condition, and co-worker relations). These two dimensions, together with working conditions and co-worker relations, form the overall job satisfaction (Weiss et al., 1967).

Past studies on the link between job satisfaction and organizational commitment borrowed heavily from both Social Exchange Theory (SET) and the Psychological Contract Theory (PCT). SET posits that there exists a series of interdependent interactions between two parties that generate obligations between them, where one party is obligated to reciprocate with a positive attitude in appreciation of the valued and beneficial resource that they enjoyed from the other part (Blau, 1964; Homans, 1958; Mitchell et al., 2012). PCT, on the other hand, suggests that in a relationship between two parties (e.g., employee and organization), there exists a perception about what the employee believed to be entitled to or should receive from their job beyond what is formally agreed upon (Taylor et al., 2006). The perceptions lead to an exchange relationship, governed by norms of reciprocity and a set of expectations/obligations. The employees fulfil these expectations/obligations in return for the benefits they enjoyed. In an organizational context, therefore, both SET and PCT advocate that an organization that takes care of its employees, leading to higher levels of satisfaction with different facets of the job, receives in return positive employee outcomes such as higher organizational commitment (Cropanzano and Mitchel, 2005). Employees would be satisfied with their job if they feel that their capacities, experiences, and values are being recognized and organized in their work environment and that the work environment offers them commensurate opportunities and rewards (Van Schalkwyk and

Rothmann, 2010). Consequently, the employees will reciprocate with a stronger affective commitment towards the organizations if they perceive that their organization cares for them and if they experience satisfaction with pay, security, autonomy, and career advancements (Chordiya et al., 2017). Both theories suggest that the employee's job satisfaction will positively influence organizational commitment.

The past studies on the link are many, although they cover some sectors more than others. See for example, in education (Abebe and Markos, 2016; Jonathan, Darroux, and Massele, 2013; Johnathan, Darroux and Thibeli, 2013; Yucel and Bektas, 2012); hotel industry (Garcia-Almeida et al., 2015; Gunlu et al., 2010; Ozturk et al., 2014), medical services (Al-Hussein, 2020; McPhee and Townsend, 1992; Mehdi et al., 2013; Velickovic et al., 2014); IT industry (Lumley et al., 2011); service industry (Azeem 2010); and in manufacturing (Miarkolai and Miarkolai, 2014). However, the empirical evidence so far is highly mixed (Saridakis et al., 2018). Following the diversity of the measures used to measure job satisfaction, this review focused on the studies that used the Minnesota Satisfaction Questionnaire (MSQ) (Weiss et al., 1967), because it is the measure that the present study applied.

Based on a sample of managers of large-scale hotels in Turkey, Gunlu et al. (2010) reported higher intrinsic than extrinsic job satisfaction and higher normative than affective commitment among them. The study also reported significant positive effects of general (overall) job satisfaction and extrinsic job satisfaction on both normative and affective commitment. Besides, extrinsic job satisfaction had the strongest effect on both dimensions of organizational commitment than intrinsic job satisfaction. The intrinsic job satisfaction had a positive but insignificant effect on affective and normative commitment. Continuance commitment was excluded in the analysis for lower Cronbach's alpha ($\alpha = .55$). Miarkolai and Miarkolai (2014) used a sample of staff from the Red Crescent Society's textile industry in the Islamic Republic of Iran. They reported that the general, intrinsic, and extrinsic job satisfaction, each had a significant positive effect on overall organizational commitment as well as on each of its three dimensions. Filiana (2016) reported the strongest correlation between job satisfaction of generation Y employees in Malaysia and affective commitment, followed by normative and continuance commitment. Moreover, Filliana found that different dimensions of job satisfaction (intrinsic and extrinsic) affected

organizational commitment and its dimension differently, amplifying the importance of disaggregating the two constructs in research. Al-Hussein (2020) used a sample of nurses in Iraq with stepwise regression and reported that the total job satisfaction and its two dimensions – intrinsic and extrinsic satisfaction - were significantly positively related to organizational commitment and its dimensions except for the continuance commitment.

Also, the past studies have compared the results on the satisfaction – commitment link between public and private sector employees (Markovits et al., 2010) and across cultures (US vs. India) (Chordiya et al., 2017). Markovits et al. (2010) compared their evidence on the link between public and private sector employees in Greece. They found that intrinsic and extrinsic job satisfaction were significantly positively related to both affective and normative commitment. Moreover, the relationship was stronger for the public than for the private-sector employees, and the results were upheld even after controlling for several factors, including demographic characteristics. They concluded that when intrinsic and extrinsic job satisfaction increase, both affective and normative commitment tend to be higher in public than in private sector employees. Chordiya et al. (2017) found the affective commitment of public sector managers in India to be higher than that of their counterparts in the US. Similar to the other studies reviewed in the present paper, job satisfaction positively and significantly affected affective commitment overall and in the contextual subgroups (India and five US states). The only deviation from the present review is that Chordiya et al. used Mowday et al.'s (1979) affective commitment scale and a one-item job satisfaction measure. One of their conclusions is that job satisfaction has a significant positive effect on affective commitment despite the cultural differences between the two countries (collectivist vs. individualistic culture).

Other past studies either aggregated the MSQ scale (e.g., Kaplan et al., 2012) or the OCQ scale (e.g., Hashmi and Naqvi, 2012; Jonathan Darroux and Massele, 2013) or both (Bennett, 2019). Kaplan et al. (2012) used a sample of hospital employees and reported a significant positive impact of job satisfaction on affective and normative but not on continuance commitment. Hashmi and Naqvi (2012) used a sample of bank employees in Pakistan and reported a positive effect of both intrinsic and extrinsic job satisfaction on organizational commitment,

with the former having the strongest effect. Jonathan, Darrous and Maselle (2013) used a sample of teachers from three public secondary schools in Dodoma, Tanzania. They reported organizational commitment to be significantly positively affected by both intrinsic and extrinsic job satisfaction. Finally, Bennett (2019) reported a significant positive relationship between job satisfaction and organizational commitment, based on a sample of fast-food restaurant employees in the Caribbean.

Of interest to the present study, are studies on the link focusing on special mission/service organizational contexts. However, relatively fewer studies are available generally and even scantier in Africa, particularly in Rwanda. Examples of special organizational context studies are those that focused on long care facility employees (Rai 2012) and assisted living employees (Sikorska-Simmons, 2005). The attraction to the special organizational context studies is that the employees in them need a higher commitment to the organizations' mission for it to be fulfilled. Rai (2012) used fifteen items derived from Warr, Cook and Wall (1980) to measure job satisfaction and Mowday et al. (1979) nine out of the fifteen items to measure organizational commitment. Rai reported job satisfaction to have a significant positive effect on organizational commitment even after controlling for the effects of demographic variables (i.e., age, gender, marital status, education, tenure, workload, and ethnicity). The study also included in the model other predictors such as facility size and social support. Yet, job satisfaction emerged as the strongest predictor of organizational commitment. In the second study, Sikorska-Simmons (2005) used three items from Cammann et al. (1979) and Seashore et al. (1982) to measure Job satisfaction and nine items from Cook and Wall (1980) to measure organizational commitment. Sikorska-Simmons reported job satisfaction to have a significant positive relationship with organizational commitment. Both studies, therefore, suggest that job satisfaction is also an important predictor of the organizational commitment of employees in special mission organizations.

The present study generally attempted to fill this contextual empirical gap in the satisfaction-commitment link by providing empirical evidence from a frontier country in Africa - Rwanda. The need to extend studies to other contexts is grounded on previous studies' suggestions that affective commitment, for example, varied with employees' satisfaction with aspects of the work context. In cross-national comparative studies like

Choridya et al. (2017), it is shown that affective commitment is significantly higher among Indian public managers than among US public managers. Saridakis et al. (2020) called for further research on the satisfaction-commitment link in different cultural contexts as it will improve the understanding of the nature of the relationship. Specifically, the present study extends the investigation into the satisfaction-commitment link in special mission/service organizational contexts by providing empirical evidence from a sample of employees of a special mission organization in Rwanda (The National Commission for the Fight Against Genocide - CNLG). Constitutionally created in 2007 as a National Commission, CNLG's mission is to prevent and fight against Genocide, as well as to address its consequences both inside and outside the country through its attributions. Its mission implies that society places high expectations on it, making it a natural contextual avenue for studying job attitudes, e.g., organizational commitment and job satisfaction. These expectations, in many ways, can be attained if employees are committed to the organization and/or its course. CNLG was, therefore, chosen because it provides specific services to citizens who were affected by the genocide and are dealing with its aftermath. Operationally, CNLG is headquartered in Kigali, with one coordination centre in every two districts (15 district centres covering all 30 districts). Besides, CNLG also runs a research centre in Kigali responsible for "Gacaca" documentation.

The present study, therefore, pursued several objectives. Firstly, the study assessed the levels of both organizational commitment and job satisfaction among CNLG employees. Secondly, it established the effect of job satisfaction (and its facets) on CNLG employees' organizational commitment (and its facets). The disaggregation of organizational commitment into its dimensions is consistent with the two calls in Saridakis et al. (2020). Firstly, future research should consider the three-dimensional conceptualization of organizational commitment to gain a complete picture of the satisfaction-commitment relationship. Secondly, focusing on particular measures of job satisfaction and organizational commitment will enhance the comparison of findings to past empirical studies. Consistent with the last call, this study's literature review focused more on the studies that used the MSQ to measure job satisfaction. Disaggregating both job satisfaction and organizational commitment is a methodological extension of past studies on the link in the special mission organizational contexts. The Social Exchange

Theory, as well as the Psychological Contract Theory, was used as a basis for the expected relationship between the two job attitudes. The organizational commitment would develop among CNLG employees as their reciprocation in return for their feeling of being satisfied with various aspects of their job.

Lastly, the study established the unique contribution of job satisfaction and its facets in explaining the variance in organization commitment overall and each of its three dimensions after controlling for a range of demographic variables. This step was motivated by past research (e.g., Gasengayire and Ngatuni, 2019; Makovits et al., 2010; Rai, 2012). In Gasengayire and Ngatuni (2019), age had a positive and significant effect on overall organizational commitment and its three dimensions. Gender and marital status had negative and significant impacts on overall commitment and all its dimensions except the affective commitment dimension. Working experience negatively (positively) and significantly affected affective (continuance) commitment. Education, on the other hand, had an insignificant effect on overall commitment and all three dimensions. Besides, Rai (2012) and Markovits et al. (2010) controlled for the impacts of the demographic variables in their estimation of the effect of job satisfaction on organizational commitment, and the effect of job satisfaction survived.

From the preceding literature review, an operational conceptual model was developed (Figure 1). Unlike in the past studies where the MSQ was used with two subdimensions (intrinsic and extrinsic job satisfaction) covering 18 out of the 20 items, this study used a third dimension – work environment (working conditions and workers relations). Thus, six hypotheses were developed and tested from the conceptual model.

- H1 Intrinsic job satisfaction significantly positively affect organizational commitment and its three dimensions
- H2 Extrinsic job satisfaction significantly positively affect organizational commitment and its three dimensions
- H3 Satisfaction with the working environment significantly positively affect organizational commitment and its three dimensions
- H4 Intrinsic job satisfaction significantly positively affect organizational commitment and its three dimensions after controlling for the effects of a range of demographic variables.

- H5 Extrinsic job satisfaction significantly positively affect organizational commitment and its three dimensions after controlling for the effects of a range of demographic variables.
- H6 Satisfaction with the working environment significantly positively affect organizational commitment and its three dimensions after controlling for the effects of a range of demographic variables.

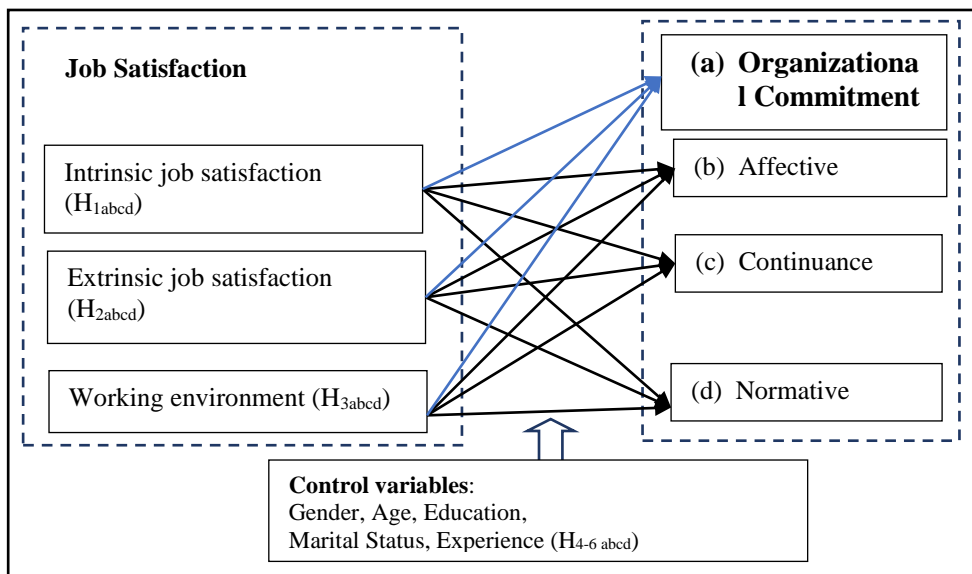


Figure 1. The conceptual model

METHODOLOGY

The study adopted a quantitative cross-sectional survey design using a structured questionnaire to collect data on the study variables from CNLG employees. At the time of the survey, CNLG had a workforce of 135 employees. Sixty-eight of them worked at the headquarters, 35 at the Research Centre, and 32 in the Coordination Centres. To gauge against the threats of possible sampling inadequacy, all 135 employees were targeted. Tabachnick and Fidell (2013, p.123) recommend a minimum sample size of 90 cases for multiple regression analysis with eight predictor variables.

Measures

Job satisfaction: Job satisfaction was measured by the short form of the Minnesota Satisfaction Questionnaire (MSQ) of Weiss *et al.* (1967) with

20-items. MSQ has been widely validated in different contexts including in South Africa by Buitendach and Rothmann (2009) and used in many studies, e.g. Gunlu *et al.* (2010), Jonathan, Darroux and Masselle (2013), Hasmi and Naqvi (2012), Miarkolaei and Miarkolaei (2014), Bennett (2019), Markovits *et al.* (2010), etc., with acceptable reliability statistics. The MSQ is now available for free under the Creative Commons Attribution – Non-Commercial 4.0 International License and can be used for research without prior consent subject to proper acknowledgement of the Vocational Psychology Research (VPR) of the University of Minnesota¹. Its 20 items can be disaggregated into intrinsic job satisfaction (INJS) (12 items), extrinsic job satisfaction (EXJS) (6 items) and the last two (2) related to working conditions and co-worker relations are added to the intrinsic and extrinsic job satisfaction to measure the general/overall job satisfaction (OJS). In this study, the items for working conditions and co-worker relations are also summed up to form a third construct – working environment (WE), which is assessed to see whether it also affects organizational commitment and its dimensions. Participants were requested to rate their level of agreement with the items on a five-point Likert-type scale ranging from 1= totally dissatisfied to 5 = totally satisfied. Cronbach's alphas for intrinsic, extrinsic, overall job satisfaction and satisfaction with the working environment were respectively 0.850, 0.849, 0.910, and 0.738 (Table 3), indicating acceptable to excellent internal consistency (George and Mallery, 2019, p.244; Hair *et al.*, 2019). The scores on the items were averaged in each sub-scale across participants to obtain the participant's mean (index) score.

Organizational commitment: The Organizational Commitment Questionnaire (OCQ), originally developed by Mowday *et al.* (1979) with 15 items, was adopted to measure organizational commitment. Respondents rated their agreement with each item on a 7-point Likert-type scale ranging from 1 = strongly disagree to 7 = strongly agree, where a higher score indicated a higher commitment to the organization. Deleting one item on the continuance scale led to Cronbach's alpha coefficients: organizational commitment (OC) (14) = .721; Affective commitment (AC) (5) = .780; Continuance commitment (CC) (4) = .777; and Normative commitment (NC) (4) = .797 (Table 3) indicating acceptable internal consistency (George and Mallery, 2019; Hair *et al.*,

¹<http://vpr.psych.umn.edu/instruments/msq-minnesota-satisfaction-questionnaire> (Accessed, 27th September 2019)

2019). Mean scores were computed across the organizational commitment and each of its sub-scales, for each participant.

Demographic variables: Participants' demographic characteristics were captured as follows: gender (1 if male, 0 otherwise); age (1 if >35 years, 0 otherwise), and the highest level of education (1 if 20 years of schooling, 0 otherwise). In Rwanda, these groups translate to Master's and bachelor's degree awards, respectively. Other demographic characteristics were marital status (1 if married or divorced, 0 otherwise), and finally, working experience (1 if ≥ 2 years, 0 otherwise). These were used for two purposes – to describe the sample and to serve as control variables (El-Dief and El-Dief, 2019).

ANALYSIS

Descriptive statistics were computed for the overall and each subscale of organizational commitment. These were interpreted into low, moderate, and high levels of organizational commitment, following Albdour and Altarawneh's (2014) cut-off points of < 2.8 , $2.8 - 4.9$; and > 4.9 , respectively, having been translated from their five-point to a seven-point rating scale. Pearson correlation analysis was run on both organizational commitment and the predictor variables. The first purpose was to check for the correlation between pairs of the organizational commitment items. Cohen (2014) recommends that the three dimensions are correlated to each other. The second purpose is to ensure that the no-multicollinearity assumption in the predictor variables was met; i.e., $r < |.9|$) (Pallant, 2016). The collinearity diagnostics returned a $VIF < 5$. Rogerson (2001, p.139) recommend that beyond this value, multicollinearity problems would be suspected. The third purpose was to test for the linearity assumption between the dependent and predictor variables. Pallant (2016) suggest that linearity between dependent and independent variables will prevail if about 30 percent of the coefficient of correlations $r > |.3|$. Outliers were tested by a combination of Mahalanobis distance, Cook's distance, and Leverage values. Normality was tested using Shapiro Wilk's technique. Homoscedasticity assumption in the residuals was tested using Breusch-Pagan LM and Koenker techniques (Hayes and Cai, 2007).

Standard multiple regression analysis (Equation 1) was used to test the first three hypotheses, each with four sub hypotheses. Four models based

on the dependent variables, defined by the type of commitment, were run to test the three hypotheses.

$$Y_i = \beta_0 + \beta_1 INJS + \beta_2 EXJS + \beta_3 WE + \varepsilon \quad (1)$$

where Y is the dependent variable taking the values of organizational commitment (OC), affective commitment (AC), continuance commitment (CC), and normative commitment (NC), depending on the commitment model. β_1 to β_3 are the coefficients of interest, which are used to determine whether a job satisfaction dimension has a significant effect on the OC or its dimensions at the .05 level, holding the other dimensions constant. The multiple regression analysis was followed by a Hierarchical Multiple Regression (Equation 2). The purpose was to estimate the unique contribution of job satisfaction dimensions in explaining the variance in organizational commitment and its dimensions beyond the effects of the selected demographic variables (the remaining three hypotheses, also each with four sub hypotheses).

$$Y_i = \beta_0 + \beta_1 INJS + \beta_2 EXJS + \beta_3 WE + \beta_4 Gen + \beta_5 Age + \beta_6 Educ + \beta_7 MS + \beta_8 Exp + \varepsilon \quad (2)$$

RESULTS

Description of the Participants

One hundred and nineteen usable questionnaires were returned and retained for analysis – an 88.1 percent response rate. The results (Table 1) show that about two-thirds of the respondents were male and 35 years old or younger, consistent with the post-genocide social-political situation in the country. The majority (about 82.6 percent) had bachelors' qualifications (18 years of formal schooling). Half of the participants were singles, while the rest were either married or divorced. Consistent with the post-genocide situation, slightly above two-thirds of the participants had worked for CNLG for two or more years. Over three-quarters of the participants worked at headquarter and the research centre, both located in Kigali; the rest worked at the district centres.

Table 1. Description of the sample

Variable	Frequency	Percentage
Gender (<i>n</i> = 119)		
Male	74	62.2
Female	45	37.8
Age (<i>n</i> = 118)		
≤ 35 years	79	66.9
> 35 years	39	33.1
Years of formal schooling (<i>n</i> = 115)		
18 years	95	82.6
20 years	20	17.4
Marital Status (<i>n</i> = 116)		
Single	58	49.2
Married or divorced	60	50.8
Experience (<i>n</i> = 116)		
< 2 years	35	30.2
≥ 2years	81	69.8
Working station (<i>n</i> = 119)		
Headquarters and Research Centres	87	73.1
District centres	32	26.9

Descriptive statistics for the attitudinal variables

Descriptive statistics for both organizational commitment and its dimensions (7-point response ratings) and job satisfaction and its dimensions (5-point rating points) are presented in Table 2. All mean scores for the organizational commitment scales were above 4.9 (Albdour and Altarawneh, 2014), with standard deviation varying from .47 to .95, implying that organizational commitment was relatively high among the employees of CNLG. Affective commitment recorded the highest commitment score. All mean scores for job satisfaction and its dimensions ranged from 3.1 to 3.3 and fell into the 2.0 to 3.5 range (Albdour and Altarawneh, 2014), implying that the CNLG employees were moderately satisfied with their job. Extrinsic job satisfaction had the highest mean score (M=3.28, SD = 0.398) followed by intrinsic job satisfaction (M=3.24, SD = 0.406).

Table 2. Descriptive statistics

	N	Min.	Max.	Mean	S.D.
Overall organizational commitment	118	4.36	6.43	5.720	0.470
Affective Commitment	119	3.80	7.00	6.069	0.554
Continuance commitment	118	2.75	6.25	5.589	0.952
Normative Commitment	119	3.00	6.00	5.466	0.776
Overall job satisfaction	115	2.85	3.95	3.239	0.376
Intrinsic job satisfaction	116	2.58	4.00	3.240	0.406
Extrinsic job satisfaction	118	2.83	4.00	3.280	0.398
Working environment	119	2.00	4.00	3.143	0.545

Correlation Analysis and other diagnostic tests

Pearson correlation analysis results involving the two job attitudes and the demographic variables are presented in Table 3. Affective commitment was significantly negatively correlated with continuance commitment ($r = -.37, p < .001$) and also negatively but not significantly correlated with NC ($r = -.17, p > .05$). These were moderate and low correlations, respectively (Cohen 1988). Correlation between continuance commitment and normative commitment was strong, positive and statistically significant ($r = .60, p < .001$).

These results lend support to Cohen's (2014) argument that the three dimensions should be correlated. The results are also consistent with the expectation that when employees are affectionately and emotionally attached to the organization and its mission, they will be less likely to commit as an obligation or in fear of losing the side bets. Similarly, employees who commit as an obligation, are also likely to commit for fear of losing everything they had enjoyed from the organization, which made them feel obligated, hence the positive relationship between normative and continuance commitment. For the linearity assumption, at least two predictors are moderately correlated ($r > |.3|$) with the dependent variables (Pallant 2016), implying support for the assumption. For the no-multicollinearity assumption, the highest correlation is between intrinsic and extrinsic job satisfaction ($r = .762, p < .001$), which is lower than the $r < .9$ cut-off recommended in Pallant (2016), beyond which multicollinearity problem would have been a concern. The collinearity

Table 3. Correlation and Reliability Analysis

	1	2	3	4	5	6	7	8	9	10	11	12
1 OC	(0.72)											
2 AC	.104	(0.78)										
3 CC	.775**	-.373**	(0.78)									
4 NC	.862**	-.172	.602**	(0.80)								
5 OJS	.143	-.362**	.274**	.253**	(0.91)							
6 INJS	.288**	-.466**	.465**	.385**	.958**	(0.85)						
7 EXJS	-.162	-.197*	-.059	-.060	.899**	.762**	(0.85)					
8 WE	.016	.093	-.116	.088	.652**	.491**	.613**	(0.74)				
9 Gen	-.377**	.091	-.359**	-.360**	-.090	-.140	-.055	.205*	–			
10 Age	.395**	.148	.241**	.332**	-.138	-.116	-.284**	.174	-.005	–		
11 Educ.	-.029	-.136	.087	-.032	.102	.127	.088	.068	.031	.009	–	
12 M/S	-.263**	.108	-.109	-.425**	-.342**	-.360**	-.276**	-.114	-.144	.294**	-.024	–
13 W/Exp.	.092	-.198*	.220*	.079	-.217*	-.086	-.353**	-.415**	-.011	.182	.113	-.059

*. $p < 0.05$ level (2-tailed); **. $p < 0.01$ level (2-tailed).

OC = Overall organizational commitment, AC = Affective commitment, CC = Continuance commitment, NC Normative commitment, OJS = overall job satisfaction, INJS = Intrinsic job satisfaction, EXJS = Extrinsic job satisfaction, WE = working environment (sum of working condition and coworker indicators), Gen = gender, Educ. = educational qualification, M/S = Marital status, W/Exp = working experience

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Against the cut-off points by Mahalanobis distance, Cook's distance, and leverage values, none of the cases had at least two of the values higher than the respective cut-off points for an undue influence of outlier values to be suspected. The Shapiro Wilk's test returned statistics of between .55 and .84, $p < .001$, suggesting a violation of the normality assumption. However, Pallant (2016) indicates that many statistical tests are tolerant of the violation of this assumption when the sample size is reasonably large ($n > 30$). The Breusch-Pagan LM and Koenker techniques (Hayes and Cai, 2007) returned significant statistics ranging from $p < .05$ to $p < .001$ depending on the dependent variable used, indicating a violation of the homoscedasticity assumption. Thus, the study reports heteroscedasticity – robust standard errors as a mitigation of the problem.

Multiple regression analysis results

Four standard multiple regression analysis models based on Equation 1 were run to assess the effect of job satisfaction dimensions on the overall commitment and its dimensions. All models were significant at $p < .001$ and explained about 40 percent ($F(3,110) = 43.24, p < .001$), 35.4 percent ($F(3,110) = 65.43, p < .001$), 58.5 percent ($F(3,110) = 111.67, p < .001$), and 42.58 percent ($F(3,111) = 28.11, p < .001$) of the variance in overall,

affective, continuance and normative commitments, respectively (Table 4).

Intrinsic job satisfaction significantly positively affected the overall organizational commitment ($b = 1.06, t = 10.94, p < .001$), continuance commitment ($b = 2.67, t = 18.18, p < .001$), and normative commitment ($b = 1.86, t = 8.95, p < .001$), but negatively and significantly affected affective commitment ($b = - 1.027, t = - 10.20, p < .001$). Extrinsic job satisfaction significantly and negatively affected overall organizational commitment ($b = - 1.09, t = - 7.74, p < .001$), continuance commitment ($b = - 1.89, t = - 9.99, p < .001$), and normative commitment ($b = - 1.708, t = - 7.46, p < .001$). Its effect on affective commitment was positive but insignificant ($b = 0.18, t = 0.84, p = .403$).

Satisfaction with working environment insignificantly positively affected the overall commitment ($b = .129, t = 1.527, p = .151$) and normative commitment ($b = 0.245, t = 1.820, p = .174$); but significantly positively affected affective commitment ($b = .369, t = 2.66, p = .009$), and significantly negatively affected continuance commitment ($b = - 0.298, t = - 3.51, p < .001$). Comparatively, intrinsic job satisfaction explained more of the variance in affective commitment, ($\beta = - 0.746$), continuance commitment ($\beta = 1.165$), and normative commitment ($\beta = .977$), while extrinsic job satisfaction explained more of the variance in the overall commitment ($\beta = -.937$).

Table 4. Multiple regression analysis results

Variable	OC		AC		CC		NC	
Constant	5.467	***	7.632	***	4.102	***	4.287	***
Intrinsic job satisfaction	1.063	***	-1.027	***	2.671	***	1.860	***
Extrinsic job satisfaction	-1.093	***	0.181		-1.890	***	-1.708	***
Working Environment	0.129		0.369	**	-0.298	***	0.245	
R ²	40		35.4		58.5		42.58	
F	43.24	***	65.43	***	111.67	***	28.11	***

*. $p < .05$; **. $p < .01$; ***. $p < .001$

Notes: coefficients are based on heteroskedasticity-robust standard errors (Hayes and Cai, 2007)

OC = Overall organizational commitment; AC = Affective commitment; CC = Continuance commitment; NC = Normative commitment.

Hierarchical Regression Results

Hierarchical multiple regression (HMRA) was used to assess the ability of the three components of job satisfaction (intrinsic, extrinsic and work environment) to predict the levels of organizational commitment and each of its components after controlling for the influence of the five demographic variables – gender, age, marital status, education, and experience (Table 5).

For the overall organizational commitment, the five demographic variables were entered at Step 1 and explained 50.8% of its variance, $F(5,106) = 21.93, p < .001$. With the three job satisfaction components entered at Step 2, the full model explained 74.4% of the variance in overall commitment, $F(8,103) = 37.42, p < .001$. The three components of job satisfaction explained an additional 24% of the variance in organizational commitment after controlling for gender, age, marital status, education and working experience, $\Delta R^2 = .24, \Delta F(3,103) = 31.59, p < .001$. The intrinsic job satisfaction positively and significantly affected overall commitment ($b = .87, t = 8.62, p < .001$) while extrinsic job satisfaction negatively and significantly affected the overall organizational commitment ($b = -1.03, t = -8.74, p < .001$). Satisfaction with the work environment had a positive but insignificant effect ($b = .05, t = .68, p = .499$). Extrinsic job satisfaction was the most influential predictor (beta = .868) than intrinsic satisfaction (beta = -.748, $p < .001$).

Table 5. Hierarchical regression

Variable	Step 1				Step 2			
	OC	AC	CC	NC	OC	AC	CC	NC
1 Constan t	6.07***	6.11***	5.88***	6.21***	6.59***	8.03***	4.62***	6.61***
2 Gen	-.43***	.12	-.77***	-.72***	-.38***	-.12	-.38**	-.64***
3 Age	.54***	.20	.57**	.88***	.38***	.12	.46**	.60***
4 Educ.	-.034	-.17	.19	-.06	-.03	-.09	.11	-.08
5 M/S	-.46***	.06	-.45**	-1.01***	-.38***	-.17	-.07	-.86***
6 W/Exp.	-.04	-.26*	.29	-.10	-.23***	-.10	-.24	-.34***
7 INJS					.87***	-1.14***	2.73***	1.41***
8 EXJS					-1.03***	.25	-1.87***	-1.62***
9 WE					.05	.35***	-.46**	.15
R ²	.51	.10	.27	.61	.74	0.4	.72	.83
R ² - Change					.24***	.30***	.45***	.22***
Model F	21.93***	2.32*	7.95***	33.4***	31.59***	8.53***	33.59***	62.31***

*. $p < .05$; **. $p < .01$; ***. $p < .001$

Notes:

OC = Overall organizational commitment; AC = Affective commitment; CC = Continuance commitment; NC = Normative commitment. INJS = Intrinsic job satisfaction, EXJS = Extrinsic job satisfaction, WE = working environment (sum of working condition and co-worker indicators), Gen = gender, Educ. = educational qualification, M/S = Marital status, W/Exp. = working experience

The five personal variables entered at Step 1 explained only 10% of the variance in the affective commitment, $F(5,105) = 2.32, p = .048$. When job satisfaction components were entered at Step 2, the model as whole explained 40% of the variance in affective commitment, $F(8,103) = 8.53, p < .001$. The three components of job satisfaction at Step 2 explained an additional 30% of the variance in affective commitment $\Delta R^2 = .30, \Delta F(3,103) = 17.12, p < .001$. Intrinsic job satisfaction had a significant negative effect ($b = -1.14, t = -6.25, p < .001$) while work environment had a significant positive effect on affective commitment ($b = .35, t = 2.75, p = .007$). Extrinsic job satisfaction had positive but insignificant effect ($b = 0.25, t = 1.19, p = .239$). Intrinsic job satisfaction was the most influential factor ($\beta = -.83, p < .001$) than work environment ($\beta = .35, p < .01$). These results imply that extrinsic job satisfaction has a positive but insignificant effect on affective commitment, whereas intrinsic job satisfaction and work environment respectively statistically negatively and positively affected affective commitment beyond the effect of the demographic variables.

For the continuance commitment model, the five demographic variable entered at Step 1 explained only 27.3% of the variance, $F(5,106) = 7.95, p < .001$. When the job satisfaction components were entered at Step 2, the total variance explained by the model as a whole was 72.3 ($F(8,103) = 33.59, p < .001$). The three components of job satisfaction explained an additional 45% of the variance in continuance commitment after controlling for the effects of the demographic variables, $\Delta R^2 = .45, \Delta F(3, 103) = 55.79, p < .001$. Intrinsic job satisfaction positively and significantly affected continuance commitment ($b = 2.73, t = 12.85, p < .001$). Extrinsic job satisfaction ($b = -1.87, t = -7.57, p < .001$) and satisfaction with the work environment ($b = -.46, t = 3.08, p = .003$) had significant negative effect on continuance commitment, with intrinsic job satisfaction having the most influence ($\beta = 1.16, p < .001$), followed by extrinsic satisfaction ($\beta = -.782, p < .001$) and work environment ($b = -.265, p = .003$). These results imply that intrinsic job satisfaction have a

negative effect while both extrinsic job satisfaction and satisfaction with work environment had significant negative effects on continuance commitment beyond the effects of the demographic variables.

For the normative commitment, the five demographic variables entered at Step 1 explained 61.2% of the variance in it, $F(5,106) = 33.44$, $p < .001$. With the components of job satisfaction entered at Step 2, the model as a whole explained 82.9% of the variance in normative commitment ($F(8,103) = 62.31$, $p < .001$). The three components of job satisfaction explained an additional 21.7% of the variance in normative commitment having controlled for the effects of the demographic variables $\Delta R^2 = 21.7\%$, $\Delta F(3,103) = 43.45$, $p < .001$. Intrinsic job satisfaction positively and significantly affected normative commitment ($b = 1.41$, $t = 10.38$, $p < .001$). Extrinsic job satisfaction on the other hand, negatively and significantly affected normative commitment ($b = -1.62$, $t = -10.19$, $p < .001$). However, satisfaction with work environment had a positive but insignificant effect on normative commitment ($b = .15$, $t = 1.59$, $p = .115$), extrinsic job satisfaction having the most influence ($\beta = -.828$, $p < .001$), followed by intrinsic satisfaction ($\beta = .737$, $p < .001$). These results imply that intrinsic job satisfaction had a positive effect while extrinsic job satisfaction had significant negative effects on normative commitment beyond the effects of the demographic variables.

Discussion

The first objective of the study was to estimate and evaluate the level of organizational commitment and job satisfaction among CNLG's employees. The study found that employees were highly committed to the organization, irrespective of how it was measured. The affective commitment was the highest, followed by continuance and normative commitments. The results are consistent with those of Markovits et al. (2010) but contradict those of Gunlu et al. (2010). Despite this inconsistency, the findings are useful for CNLG. The nature of its mission requires employees who are more affectionately and emotionally committed to the organization and its mission. CNLG employees were also found to be moderately satisfied with their job, though more with extrinsic than with intrinsic aspects. Similar inconsistencies were found when compared with Markovits et al. (2010) and Gunlu et al. (2010). However, they show that employees are more satisfied with such aspects as pay and co-worker relations. They may also imply that CNLG is doing its best in having in place rewarding and supportive workers relations.

The finding also shows that affective commitment is negatively related to the continuance and normative commitment. This finding is important as it indicates that employees are highly committed not because of personal gains or the feeling of obligation for what the organization offers them but because of the emotional and affectionate attachment to it and its mission. The more affection they develop, the less continuance and normative commitment they develop.

The second objective was to assess the effect of job satisfaction on employees' organizational commitment. Intrinsic job satisfaction significantly and positively affected organizational commitment and both the continuance and normative commitment, supporting hypotheses H1a,c,d. The effect was negative and significant for affective commitment, failing to support hypotheses H1b. Besides, extrinsic job satisfaction significantly and negatively affected overall and both continuous and normative commitment, the opposite of Hypotheses H2a,c,d but not H2b. Comparing the two, extrinsic job satisfaction was more influential in explaining variance in overall and normative commitment.

On the other hand, intrinsic job satisfaction explained more of the variance in affective commitment and continuance commitment. The relative importance of the predictors changed depending on the dependent variable being used in the regression model. These findings are as mixed as those reported in earlier studies like Gunlu et al. (2010), Markovits et al. (2010), and Miarkolai and Miarkolai (2014). However, they lend support to the observation by Filiana (2016), who argued that the components of job satisfaction affect organizational commitment and its dimensions differently. As for the CNLG, the more the employees are intrinsically satisfied with the job, the more they become committed in terms of side bets and obligations but not affectionately or emotionally. Satisfaction with the working environment (working conditions and co-worker relations) positively and significantly affected affective commitment but significantly negatively affected continuous commitment. Past studies have included the two items in this measure in general (overall) job satisfaction. This study has treated them as a separate predictor and established that the working environment also has a significant effect on both affective and continuance commitment but in the reverse direction. Only hypothesis H3b was supported.

The last objective was to establish the unique contribution of job satisfaction dimensions on organizational commitment and its dimensions after controlling for the influence of the demographic variables of gender, age, education, marital status, and working experience. All except education significantly affected overall commitment as well as the normative commitment. Besides, gender and age also significantly affected continuance commitment. Thus, the study controlled for these effects in the regression estimations. Only the significance of the effect of marital status and working experience on affective and continuance commitment respectively was altered. Still, the significance of the effect of job satisfaction dimensions did not change. The incremental contribution in explaining the variance in overall organizational commitment was 24 percent and varied from 22 to 45 percent, depending on the commitment dimension used. Therefore, hypotheses H4 to H6 were supported.

Conclusions and recommendations

The study is not without limitations. It used a homogeneous sample of employees from a single organization, despite being operational in all geographic districts of the country. Thus, although the results can be generalized across the organization, they cannot be generalized to the Rwandan working population or all special mission organizations in Rwanda. The study also used self-reported ratings by employees, which may lead to common method biased results. Measures to reduce this bias included encouragement of voluntary participation, ensuring anonymity, reporting in aggregate, and giving the respondents an option to bolt out should they feel uncomfortable partaking in the study. The study tested the effect of just one job attitude as a predictor, i.e., job satisfaction. However, in the context of the two theories used, commitment can arise as a reciprocal reaction from employees following the feeling of other job attitudes like perceived organizational support (managerial and supervisory), perceived psychological contract breach, motivation, trust, perceived organizational politics, etc. Consequences of organizational commitment such as turnover intention, performance, etc. need investigation in these contexts; thus, the study recommends further research in these areas as well as using a more inclusive sample in Rwanda to expand our understanding of organizational commitment – its antecedents and consequences.

Despite such limitations, the study made the following contributions: It contributes empirical evidence to the organizational commitment literature from a frontier market – Rwanda. Besides, it adds evidence to the link between job satisfaction and organizational commitment from special mission organizations along the lines of Rai (2012) and Sikorska-Simmons (2005). To these organizations, the commitment of employees is paramount for the attainment of their missions. The findings also add value to the application of the social exchange and psychological contact theories. The study also established a unique contribution of job satisfaction in explaining the variance in organizational commitment adding to the works of Rai (2012) and Markovits et al. (2010). Establishing the effect of satisfaction with the work environment separate from intrinsic and extrinsic job satisfaction is new. Unfortunately, the results are as mixed as those reported in past studies on the two job attitudes. The findings have a practical implication for human resource managers in that to elicit commitment from employees, measures to enhance their job satisfaction are important while leveraging their demographic characteristics. Overall, the study recommends that for CNLD to achieve higher commitment among its employees, management should adopt measures capable of enhancing job satisfaction among them.

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