Stay or Quit: IT personnel turnover in Botswana

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ABSTRACT

Information Technology (IT) has become a major driver of business functions of organizations. Recruiting and retaining competent IT personnel has become a key managerial function. A number of studies (especially in the developed world) have focused on IT personnel issues such as career orientations, recruitment, and turnover. This study contributes to the literature on IT personnel turnover intentions from a developing country perspective. The results of the study indicate that majority of the IT personnel either intend to leave their jobs for another or uncertain about whether or not to leave their jobs. Job satisfaction, supervisor support and growth opportunities are key influences on turnover intention. Career satisfaction, organization commitment, length of service, and age did not contribute significantly to turnover intention.

Categories and Subject Descriptors:
K.7 [The Computing Profession];
K.7.1 [Occupations]

General Terms
Theory

Keywords: Information systems personnel, Botswana, organizational commitment, supervisor support, job satisfaction, turnover intention.

1. INTRODUCTION

Nearly all organisations in the world use information and communications technologies (ICTs) to capture, process, store, and transmit information. This has made information technology/information systems personnel ubiquitous in our society and more are still needed. The most important challenge facing many organisations is the recruitment and retention of highly skilled information systems personnel [7, 16]. Even when there is an apparent lack of job opportunities the highly skilled information systems personnel are still in great demand because of the continued sophistication of information and communication technologies and the ever increasing appetite by organisations to use ICTs to gain or sustain competitive advantage.

Information systems personnel turnover is a chronic problem [4, 17]. Organisations use a variety of incentives in trying to recruit and retain information systems personnel. The most basic one is a good salary. The role played by monetary compensation in reducing employee turnover is somehow inconsistent. Some studies have shown that salary is not the only incentive needed by employees, although employees with high need for achievement see monetary earnings as an indicator of their achievements [4]. Other studies have shown that higher remuneration offered by other employers is one of the major factors which make information systems personnel leave their jobs [36, 37].

In this study, we examine the turnover intentions of IS personnel in Botswana in the light of Igbaria's model of IS employee turnover intentions [12]. For some time in the 1980s and 1990s Botswana's economy grew at the fastest rate in the world (US Department of Commerce, 2000) and its GDP per capita is ranked fifth highest in Africa [40]. Botswana's population is only 1.84 million people [14]. The country's economy is very well managed although it is mainly dependent on the export of diamonds. Other significant sources of foreign exchange include tourism and beef exports.

The economic achievements of Botswana have trickled to many sectors of the economy. The IT industry has helped in bringing about a lot of changes in all the economic and social sectors of Botswana. Computers are used to process information in the public as well as the private sector. With the networking of all government schools the government is now putting more efforts in getting ICTs to almost all rural communities. The rate at which computers, software and networks have been adopted has resulted in a very high-tech, complex infrastructure that needs to be supported. Just as it is elsewhere in the world, Botswana is going to find it difficult to recruit and retain highly skilled IT and IS personnel. Understanding the turnover intentions of IS personnel is critical to the retention of qualified staff that would support the IS activities of organizations in the drive

towards achieving the developmental visions of the country. The rest of the paper is organised as follows: Section 2 examines existing literature in the area of IS personnel turnover intentions. Section 3 outlines the methodology of the study. The results of the data analyses are presented in Section 4, and discussed in Section 5, while some conclusions are drawn in Section 6.

2. REVIEW OF THE RELEVANT LITERATURE

Today the use of IT has permeated almost all nations and all organizations, profit-making and non-profit-making. In most organisations IT is used to support business processes. When used innovatively IT can deliver strategic and competitive advantage by allowing an organization to become more efficient, to reduce the time spent in bringing new products to market, to improve the speed and quality of production, to facilitate sales and consumer service or streamline infrastructure activities such as financial operations and billing systems [8, 24]. Information technology has become more and more integral to the success and profitability of organizations. Research has further shown that information technology plays a major role in raising national productivity [13]. Of the major resources of IS that include data, hardware, software, telecommunication facilities and personnel, the most important of them is personnel. The human being makes all the other components work properly. The widespread use of IT has meant that IS personnel are found in almost every organization.

The rate of change of IT is phenomenal. The rate of change has brought two major impacts on the IS personnel. Firstly, it is putting a substantial pressure on them to constantly update their knowledge at the same pace as the change of technology [8]. For various reasons not all personnel can cope with the pace. Secondly, because of high demand of IS personnel, there is a worldwide scarcity of qualified and well trained IS personnel. Research done in developed countries has shown that use of monetary incentives alone does not bring the desired effect of stemming the rate of IS employees turnover [16]. Monetary incentives tend to work during the early years of the career after which employees tend to strive for achievement and authority.

2.1 Information Systems Employees Turnover Intentions

The IS profession is facing a big problem of personnel turnover. This problem has been reported from many countries and for a long time. Rouse in [32] hinted that "voluntary turnover in many fields, especially in information technology is reaching epidemic proportions". The information technology trade magazines such as Computerworld and PC Computing, have been indicating that money was the main reason for IS employees to move into new position. Jiang and Klein in [17] reported that the "continuing challenge in information systems (IS) personnel is the high turnover rate in the profession. Ever since statistics have been kept, IS turnover has been a problem." Joseph et al in [19] noted that the problem of IS personnel turnover has continued to persist notwithstanding the recent trend by companies to relocate IT jobs offshore.

Several factors contribute to turnover intentions of IS employees. Age, education, pay and promotion have been some of the factors which influence intention to leave. Research by Rouse in [34] showed that young, entry level IS employees, who were 25 years old and under were the most dissatisfied:

> The perception of this young crowd is that they are not being fairly compensated for the levels of performance that they are producing. Many of the high tech trades are grappling with the fact that newly trained members may provide organizations with equal or even greater skills than the seasoned veterans who are receiving larger salaries, more vacation, better offices, etc. Many believe that these scenarios lead to job dissatisfaction and eventually to voluntary turnover (p.281-2)

Earlier studies have established that job satisfaction and commitment to the organizational characteristics are the most substantial and the most direct influences on the turnover intentions even among IS personnel [12], which is similar to other findings concerning other professions in organizations except that job satisfaction would have more influence on turnover than organization commitment [30, 32]. Muliawan *et al.* in [30] observed that factors affecting IS auditors' turnover intentions are role conflict, satisfaction with pay, and fulfilment of growth needs which are moderated by organizational commitment and job satisfaction as expected, and argue that the need to satisfy personal and professional growth exerts a particularly strong influence on IS auditors' turnover intentions. They also found that IS auditors share similar characteristics to other IS professionals rather than with general accountants and auditors.

Pay and promotion is part of distributive justice [5]. Distributive justice relates to the perceived fairness of reward allocation and has been mentioned as the beginning of organizational justice which is the employees' perceived fairness in the workplace. According to DeConinck and Johnson in [9] an employee's perceptions of equity or inequity are based on a social comparison with a reference person or group such that the "employee expects to receive similar outcomes (e.g. pay and promotion) as another person with whom he or she believes has equal inputs (e.g. the same level of education and seniority)". Igbaria and Greenhaus in [12] found that young and highly educated employees tended to hold low levels of satisfaction with their jobs and careers and tend to experience low levels of commitment to their organizations with concomitant intentions to leave.

Several researchers have underscored the contribution of role stressors (role conflict and role ambiguity) on work-related attributes (job satisfaction, career satisfaction, organizational commitment; and intention to leave) [1, 12, 10, 15, 38]. Role ambiguity may be caused by insufficient information on how to perform a job or conflicting expectations from peers while role conflict may be caused by ambiguity of performance evaluation methods [12]. Recently, Rutner et al in [35] introduced another factor called emotional dissonance, which works better than perceived workload, role conflict or role ambiguity. Emotional dissonance is defined as the "conflict between the way one feels toward interaction partners and the emotion one feels compelled to display toward those

individuals" [35]. Many organizations may explicitly stipulate what type of emotional demeanour employees are supposed to maintain even under the strangest of the circumstances in order to maintain good customer relations. A dissonance occurs when an employee's deep felt emotions are suppressed in order to display the desirable emotions. Research by Rutner et al in [35] found that emotional dissonance significantly contributes to work exhaustion and job dissatisfaction.

Work related attitudes which include career satisfaction, job satisfaction and organizational commitment play a major role in the intention to leave by IS personnel [12].The components of job satisfaction include satisfaction with work, satisfaction with supervisor, satisfaction with co-workers, satisfaction with pay and satisfaction with promotion, while organizational commitment is the employee's identification with a particular organization and the desire to maintain the membership [12].

3. RESEARCH FRAMEWORK

There are several theories which have been put forward to try to explain why employees leave their organizations. Joseph et al in [19] discuss five of them: the theory of organizational equilibrium put forward by March and Simon in [25]; the met expectations model by Porter and Steers in [33]; the linkage model by Mobley in [28] and Mobley et al. in [29]; the unfolding model of turnover by Lee and Mitchell in [20], Lee et al. in [21], Lee et al. in [22]; and the job embeddedness theory propounded by Mitchell and Lee in [27]. In addition we can add the discrepancy theory as propounded by Jiang and Klein in [18].

All traditional turnover theories can be traced to the theory of organizational equilibrium as propounded by March and Simon in [25]. According to March and Simon's motivation theory which explains the decisions of people to participate in and remain in organizations [26] "it is postulated that the motives of each group of participants can be divided into inducements (aspects of participation that are desired by the participants) and contributions (aspects of participation that are inputs to the organization's production function but that generally have negative utility to participants)". Individuals, therefore, sustain their participation in an organization as long as the inducements to stay (i.e. the rewards they get from the organization) match or exceed their contributions (e.g. effort). The major factors that impact this equilibrium are job satisfaction and perceived job alternatives [27]. Employees' turnover occurs when employees perceive that they do not get inducements which are comparable to the contributions they make to an organization. The inducement-contribution balance is influenced by one's desire to move which is a function of one's satisfaction with the work environment and one's ease of movement which is influenced by macro- and individual-level factors that determine employability [19].

The turnover models posit that job and organizational characteristics determine job satisfaction, which in turn, determines turnover intention. Our study is based on a modified IS employee turnover model by Igbaria and Greenhaus in [12]. The Igbaria and Greenhaus turnover model considers demographic variables, role stressors, and career experiences to affect work related attitudes and turnover intention. The model takes a comprehensive look at the direct and indirect effects of these variables on turnover intention. Our study replaces organizational tenure with length of employment in the present organization. This is because in Botswana, the concept of job tenure is not common. We also recognize growth opportunity and supervisor support as key internal career related variables [26]. Our research model is presented in Figure 1.
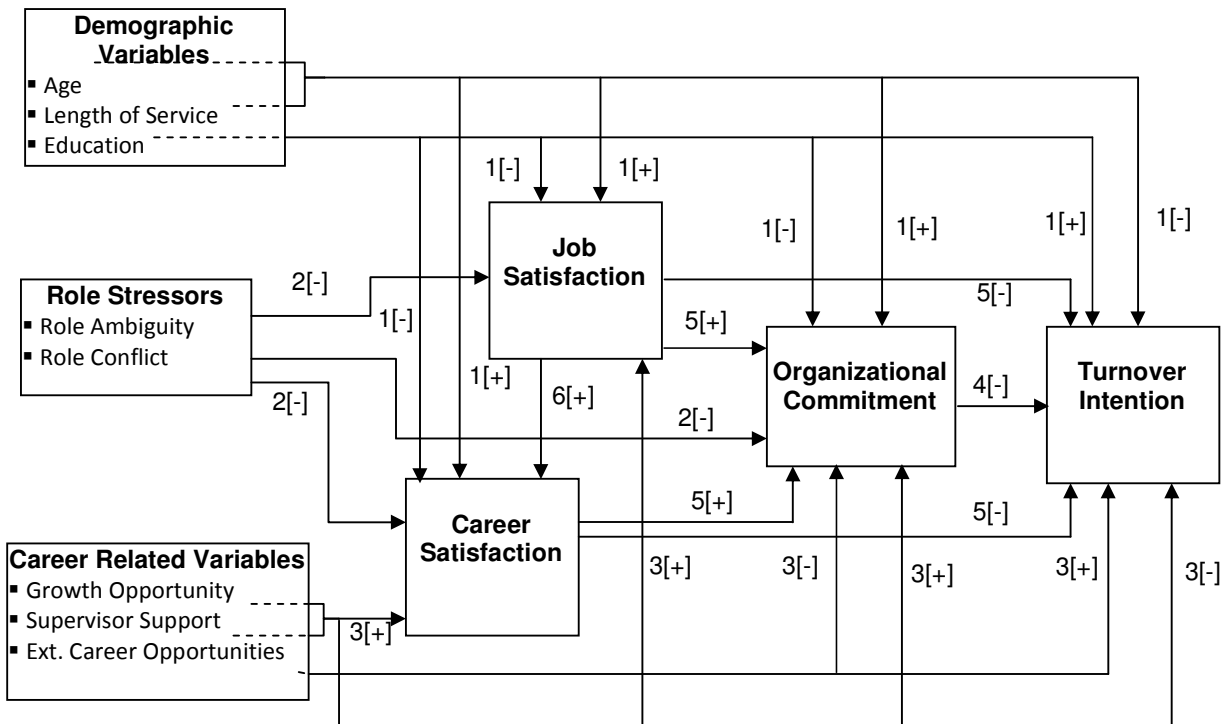

Figure 1: Employee Turnover Intention Model

The model predicts direct effects demographic variables (age, length of service, and level of education), role stressors (role ambiguity, and role conflict), and career related variables (growth opportunity, supervisor support, and external career opportunities) on work related attitudes (job satisfaction and career satisfaction), as well as direct effect of the demographic, role stressors and career related variables on turnover intention. The model also suggests a direct relationship of job satisfaction on career satisfaction, job and career satisfaction on organizational commitment and direct effect of organizational commitment on turnover intention. The following hypotheses/sub-hypotheses are tested based on the results obtained by Igbaria and Greenhaus in [12]. The signs (+ or -) indicate the direction of effect of each independent variable(s) on the corresponding dependent variable.

Table 1: Research Hypotheses

Hypotheses	Independent Variables	Sub-hypotheses	Dependent Variables	Effect [+/-]
1	Age	$H_{1.1.1}$	Career satisfaction	+
		$H_{1.1.2}$	Job satisfaction	+
		$H_{1.1.3}$	Org. Commitment	+
		$H_{1.1.4}$	Turnover Intention	-
	Education	$H_{1.2.1}$	Career satisfaction	+
		$H_{1.2.2}$	Job satisfaction	-
		$H_{1.2.3}$	Org. Commitment	+
		$H_{1.2.4}$	Turnover Intention	-
	Length of Service	$H_{1.3.1}$	Career satisfaction	-
		$H_{1.3.2}$	Job satisfaction	-
		$H_{1.3.3}$	Org. Commitment	-
		$H_{1.3.4}$	Turnover Intention	+
2	Role Ambiguity	$H_{2.1.1}$	Career satisfaction	-
		$H_{2.1.2}$	Job satisfaction	-
		$H_{2.1.3}$	Org. Commitment	-
	Role Conflict	$H_{2.2.1}$	Career satisfaction	-
		$H_{2.2.2}$	Job satisfaction	-
		$H_{2.2.3}$	Org. Commitment	-
3	Growth Opportunity	$H_{3.1.1}$	Job satisfaction	+
		$H_{3.1.2}$	Org. Commitment	+
		$H_{3.1.3}$	Turnover Intention	-
	Supervisor support	$H_{3.2.1}$	Job satisfaction	+
		$H_{3.2.2}$	Org. Commitment	+
		$H_{3.2.3}$	Turnover Intention	-
	External Career opportunity	$H_{3.3.1}$	Org. Commitment	-
		$H_{3.3.2}$	Turnover Intention	+
4	Org. Commitment	H_4	Turnover Intention	-
5	Career satisfaction	$H_{5.1}$	Org. Commitment	+
	Job satisfaction	$H_{5.2}$		+
	Career satisfaction	$H_{5.3}$	Turnover Intention	-
	Job Satisfaction	$H_{5.4}$		-
6	Job satisfaction	H_6	Career satisfaction	+

4.   METHODOLOGY
4.1   Sampling
The study population was all IS employees in Botswana who are employed as computer programmers and above, excluding all support staff such as technicians and computer operators. A list of employers was obtained from the Botswana Chamber of Commerce Industry and Manpower (BOCCIM). Data was also collected from government employees through the Government Computer Bureau. There are a few parastatal organizations in Botswana. Most of them are heavy users of IT. The research tried to cover all parastatal organizations that employ IS personnel. The researchers identified 48 organizations that employ IS personnel. The research therefore concentrated on the 48 organizations. Two hundred and forty three questionnaires were administered to IS employees in 48 organizations. One hundred and four employees from 29 organizations completed and returned the questionnaires, giving a 42.8% response rate.

4.2   Measures
This questionnaire consisted of seven parts. The first part was used to collect demographic data of the respondents. The second part of the questionnaire had seven statements on supervisory support that employees get from their organizations, designed using a five point Likert-type scale. The third part of the questionnaire had five statements on career satisfaction. Part four of the questionnaire collected data for determining the career orientations of IS personnel in Botswana. The fifth section of the questionnaire dealt on external career opportunities and factors that may influence IS employees to leave their current jobs. The sixth part of the questionnaire had ten items on work environment, while the seventh part focused on gender issues and was to be answered by female employees only. In this paper, we present the results of the analysis of the components that deal with the turnover intentions.

4.3 Analysis Procedure

SPSS package was utilized in the analysis of data. The first part involved the use of descriptive statistics to present the data obtained in terms of the demographics of the respondents. The turnover factors identified in the model were extracted using the mean score of the variables identified in each factor. The reliabilities of the factors were measured using the Cronbach's alpha, which is based on the average correlation of items within an instrument or scale; and is regarded as an indication of internal consistency. Multivariate regression analyses were carried out in order to test the hypotheses relating to employee turnover.

5. ANALYSES AND RESULTS

Table 2 shows the various test constructs and the questionnaire variables that measured the constructs, while Table 3 shows a summary of the demographic characteristics of IS employees in Botswana. Out of 104 respondents 83 (79.8%) were Botswana citizens and 21 (20.2%) expatriates, 26 (25%) were females and 78 (75%) males. It can be seen that the proportion of female employees in the IS profession in Botswana is still very low. Age-wise, IS employees in Botswana are very young. None of the respondents was aged more than 50 years and the highest percentage of respondents came from those aged between 20 and 30 years (57%). This shows that the profession is relatively new to Botswana. This is also supported by statistics which show that 51% of the respondents have less than five years in the IS field while only 11% have worked for more than 15 years in the IS field.

In the area of education, 9.6% of the respondents had attained a maximum of high school education, 35.6 % had a diploma and the rest had a first degree (40.4%) or second degree (14.4%). Most of the respondents are still in the low salary bands. About 25% of the respondents earn an annual salary of between P50,000 and P99,999; 60% earn below P150,000 per annum. Only 10.5% of IS employees earn P249,999 and above per annum. One of the reasons for the large number of employees in the low salary scales could be the fact that the IS profession is still very young in Botswana. The results show that only 29% had worked for 10 or more years in the IS field.

Table 2: Test Constructs

Constructs	Variables	Reliability
Age [AGE]	Age	1.000
Education [EDUCATN]	Education	1.000
Length of service [LENTSERV]	Length of Service	1.000
Role ambiguity [ROLEAMB]	Duties-qualifications mismatch [dutqualmismatch]	1.000
Role conflict [ROLCNFLT]	Non- core IT duties [noncoreduties]	1.000
Growth Opportunity [GRWTOPPT]	Opportunity for promotion [promotion]	0.739
	Career development support [cardevtsppt]	
	Training opportunities [trainingoppt]	
	Fairness of annual assessment [annualass]	
Supervisor Support [SUPSUPPT]	Supervisor learns employee careers goals [suplearngoals]	0.889
	Supervisor cares about goal achievement [supcargoalach]	
	Supervisor Informs employee about career opportunities [supinfomcaropp]	
	Supervisor gives credit for on the job task accomplishment [supgivescredt]	
	Supervisor gives helpful performance feedback [supprffeedback]	
	Supervisor gives helpful performance advice [supgivesadvice]	
External Career Opportunities [EXTCAROPP]	External offer of better salary and benefits for same job [salary]	0.631
	External offer of higher position but about same benefits [higherposit]	
	External offer of tenured position but same salary [tenure]	
	External offer of more challenging job but same salary [jobchallenge]	
Organizational Commitment [ORGCMIT]	How loyal the individual is to the present organization [loyalty]	1.00
Career Satisfaction [CARRSAT]	Satisfaction with achieved career success [satcarsucess]	0.808
	Satisfaction with progress towards career goals [satcargoalprgrss]	
	Satisfaction with progress towards advancement goals [satadvcmtglprgrs]	
	Satisfaction with progress towards income goals [satincmeglprgrss]	
	Satisfaction with skills development goals [satskldvtglprgrs]	
Job Satisfaction [JOBSAT]	*Integration*	0.731
	No difficulty in being accepted [acceptnotdiff]	
	Contributions valued [contrvalued]	
	Interaction with internal peers [peerinteraction]	
	Interaction with eternal peers [peerinteractout]	
	Pre-Employment Expectations	
	Meeting of pre-employment expectations [jobexpect]	
	Job Characteristics	
	How much variety is in the job [jobvariety]	
	How much organizational stability is in the job [orgstability]	
	How much identity the job provides [jobidentity]	
	How much geographic security the job has [geosecurity]	
	How much technical competence does the job require [tchcmptence]	
	How much managerial competence does the job require [mgrcmptence]	
	How much autonomy is in the job [autonomy]	
	How much skill and talent related service is in the job [service]	

Majority of IS employees in Botswana are of a young age. The average age of female employees is 27.1 years while that of male employees is 28.3 years. None of the respondents was more than 50 years old and more than half of the respondents were below 30 years old. More than half of the respondents have worked for less than 4 years in the IS field. The young working population is putting a lot of pressure on the organizations in which they work because, compared to their mature colleagues, they are the least stable in employment. There are a number of reasons as to why this is the case. Young employees generally tend to earn less than older employees because they have worked for a relatively shorter period of time and are therefore not as experienced as their older colleagues. They are thus more inclined to quit their current jobs in search of better remuneration elsewhere. Secondly, most of the young employees, being in the early phases of their careers, are in need of career development support, including training, from their employers. In order to ensure that these young employees

are satisfied to remain in their employment, employers should strive to put forth training programmes which would provide the young employees with both theoretical and hands on training in aspects related to their work. On its part, government should create an environment that is conducive for employers to be able to provide this training to its young recruits.

About 50% of the IS employees have at least a Bachelor's degree. On the face of it, this is an encouraging situation. However, the findings show also that there are a sizable number of expatriates in the profession. Although the percentage of expatriates is not too high (20.2%) it is worth considering the possibility that these could be occupying relatively senior positions in the profession. There is need to explore the necessity for training citizens for higher qualifications so that they are prepared to occupy senior positions that may fall vacant in future. This will also be good for morale and long term stability in the profession.

Table 3: Demographic Characteristics of the IS Employees

Variable		Number of Respondents	Percent
1. Age	20 – 30 Years	56	57
	31 - 35 Years	20	20
	36 – 40 Years	10	10
	41 - 50 Years	13	13
2. Citizenship	Expatriates	21	20.2
	Batswana	83	79.8
3. Gender	Females	26	25
	Males	78	75
4. Education	High School or less	10	9.6
	Diploma	37	35.6
	First Degree	42	40.4
	Masters Degree and above	15	14.4
5. Annual Basic Salary [in Botswana Pula (P)]	Below 50 000	8	8
	50 000-99, 999	25	25
	100, 000-149, 999	28	27
	150, 000-199, 999	19	19
	200, 000-249, 999	11	10.5
	Above 249,999	11	10.5
6. Years in IS field	0 – 5 Years	48	51
	6 – 10 Years	19	20
	10 – 15 years	17	18
	More than 15 Years	11	11
7. Years in Current Organization	0 – 3 years	68	66
	4 – 5 Years	10	9.7
	6 – 10 Years	14	13.6
	Above 10 Years	11	10.7

5.1 Turnover Intentions

The results of the study also indicate that the percentage of IS personnel who intend leaving their jobs is the same with the percentage who are uncertain about whether to stay on their jobs or not. 36.2% of the

IS personnel would leave their jobs if there is an opportunity to do so (22.5% strongly agree, 13.7% agree), while 36.3% were uncertain about their turnover intentions.

We can divide the IT employers in Botswana into three major groups. The private sector, the government sector

and the semi-government sector (parastatals) in which we find some big corporations such as the utility companies and government-owned banks. The study found that 41.6% of the IT employees employed in the government sector would like to leave, followed by 38.5 % of those employed in the private sector while only 32.7% of those employed by parastatals indicated that they would like to leave at the earliest available opportunity. The resolve by government sector employees to leave their current jobs is resolute given that only 8.3 % of them indicated that they don't intend to leave their current jobs. The corresponding figures for the private sector and parastatals were 28.2% and 30.6% respectively. Further analysis shows that although it is known that government employees generally earn less compared to the other two types of employers, it is not pay which is making them unhappy as they expressed more satisfaction with pay compared to the other two groups. Government employees expressed huge satisfaction (75.1%) with the career development support that they get from their employer with only 8.3% of them showing dissatisfaction. Employees who work in the parastatal organisations showed the least satisfaction (38.8%) with the career development support given by their employers. Government employees, however,

expressed deep dissatisfaction with all aspects of supervisory support. This, it seems, is the major factor that makes government IS employees want to quit their current jobs.

The results of the hypotheses tests (using multivariate regression analysis) are presented in Table 4. The results show that demographic variables do not have a significant effect on job satisfaction, career satisfaction, organizational commitment or turnover intention. However, the effects of age on job satisfaction ($t= -1.679$) and career satisfaction ($t= 1.615$) are quite sizable, even when they are not statistically significant. The older people tend to be more satisfied with their jobs and careers than young people. Also, the effects of length of service on career satisfaction ($t= 1.870$) and turnover intentions ($t= -1.624$) are quite reasonable. The longer a person stays on the job, the more his career satisfaction and the less likely the tendency to leave the job. Growth opportunity has a reasonable (not significant) effect ($t=1.947$) on organizational commitment, and the same can be said of job satisfaction and career satisfaction ($t=1.736$).

Table 4: Results of Hypotheses Tests

Hypotheses	Independent Variables	Sub-hypotheses	Dependent Variables	Effect [+/-]	β	t	Sig	Conclusion
1	Age	$H_{1.1.1}$	Career satisfaction	+	-.189	-1.615	.109	Not supported
		$H_{1.1.2}$	Job satisfaction	+	-.197	-1.679	.096	Not supported
		$H_{1.1.3}$	Org. Commitment	+	-.032	-.267	.790	Not supported
		$H_{1.1.4}$	Turnover Intention	-	.101	.866	.389	Not supported
	Education	$H_{1.2.1}$	Career satisfaction	+	-.117	-1.153	.252	Not supported
		$H_{1.2.2}$	Job satisfaction	-	-.109	-1.071	.287	Not supported
		$H_{1.2.3}$	Org. Commitment	+	-.012	-.112	.911	Not supported
		$H_{1.2.4}$	Turnover Intention	-	.164	1.612	.110	Not supported
	Length of Service	$H_{1.3.1}$	Career satisfaction	-	.211	1.870	.064	Not supported
		$H_{1.3.2}$	Job satisfaction	-	.100	.878	.382	Not supported
		$H_{1.3.3}$	Org. Commitment	-	-.030	-.256	.798	Not supported
		$H_{1.3.4}$	Turnover Intention	+	-.183	-1.624	.108	Not supported
2	Role Ambiguity	$H_{2.1.1}$	Career satisfaction	-	-.225	-2.333	.022	Supported
		$H_{2.1.2}$	Job satisfaction	-	-.120	-1.216	.227	Not supported
		$H_{2.1.3}$	Org. Commitment	-	.095	.957	.341	Not supported
	Role Conflict	$H_{2.2.1}$	Career satisfaction	-	-.017	-.173	.863	Not supported
		$H_{2.2.2}$	Job satisfaction	-	-.079	-.798	.427	Not supported
		$H_{2.2.3}$	Org. Commitment	-	-.013	-.126	.900	Not supported
3	Growth Opportunity	$H_{3.1.1}$	Job satisfaction	+	.624	8.015	.000	Supported
		$H_{3.1.2}$	Org. Commitment	+	.190	1.947	.054	Not supported
		$H_{3.1.3}$	Turnover Intention	-	-.430	-4.785	.000	Supported
	Supervisor support	$H_{3.2.1}$	Job satisfaction	+	.435	4.884	.000	Supported
		$H_{3.2.2}$	Org. Commitment	+	.001	.011	.991	Not supported
		$H_{3.2.3}$	Turnover Intention	-	-.349	-3.757	.000	Supported
	External Career opportunity	$H_{3.3.1}$	Org. Commitment	-	-.086	-.868	.387	Not supported
		$H_{3.3.2}$	Turnover Intention	+	.321	3.407	.001	Supported
4	Org. Commitment	H_4	Turnover Intention	-	-.061	-.615	.540	Not supported
5	Career satisfaction	$H_{5.1}$	Org. Commitment	+	.049	.498	.620	Not supported
	Job satisfaction	$H_{5.2}$		+	.092	.932	.354	Not supported
	Career satisfaction	$H_{5.3}$	Turnover Intention	-	-.139	-1.417	.159	Not supported
	Job Satisfaction	$H_{5.4}$		-	-.466	-5.296	.000	Supported
6	Job satisfaction	H_6	Career satisfaction	+	.169	1.736	.085	Not supported

From Table 4, it is evident that role ambiguity has a statistically significant negative effect on career satisfaction ($t= -2.333$, $p = 0.022$); thus $H_{2.1.1}$ is supported. Most of the hypotheses relating to career variables are strongly supported ($H_{3.1.1}$, $H_{3.1.3}$, $H_{3.2.1}$, $H_{3.2.3}$, $H_{3.3.2}$). The effect of job satisfaction on turnover intention is equally very significant. A high level of job satisfaction leads to less tendency to leave the job ($t= -5.296$, $p= 0.000$).

The results of the study indicate that majority of the IT personnel either intend to leave their jobs for another or uncertain about whether or not to leave their jobs. Job satisfaction, supervisor support, and growth opportunities are key influences on turnover intention. Career satisfaction, organization commitment, length of service, and age did not contribute significantly to turnover intention.

5.2   DISCUSSION OF RESULTS

According to the results, the major contributors to the turnover intentions of IS personnel in Botswana are job satisfaction and growth opportunities. In this study, the majority of the IT personnel either intend to leave their jobs for another or uncertain about whether or not to leave their jobs. This is contrary to research findings by Igbaria and Greenhaus in [12] who found that the immediate determinants of turnover intentions were job satisfaction and organizational commitment.

According to the results job satisfaction is significantly impacted by growth opportunities. Items under job satisfaction cover issues such as pre-employment expectations, the easiness with which a new employee gets integrated at place of work, and job characteristics. Job satisfaction is negatively correlated with turnover intentions. This means that employers can try to reduce their employees' intentions to leave the job by ensuring that the above factors are taken care of.

Sector-wise comparisons in this study show clearly that employees who work in the government sector are very happy with the career advancement support which they get from their employer, but they are the most disgruntled and would like to leave their jobs. Government employees are very unhappy with all aspects of supervisory support that they get from their employer. The inadequacy of supervisory support in the government sector can be pointing to a much complex problem. There is no literature which discusses issues of supervisory support of government employees in Botswana. However, the problem does not seem to be peculiar to Botswana. Research in US also pointed to poor supervisory support of employees in the government sector [31]. According to [2: p.15], a large number of federal employees in the US were likely to leave within five years because a " large quantity of government talent is frustrated by the quality of management in their organizations. They feel that it increases the bureaucratic burdens, reduces their own potential to serve".
Growth opportunity covers issues such as opportunity for promotion, career development, training opportunities and annual assessments. Apart from contributing significantly to turnover intentions, growth opportunity has a direct positive impact on job satisfaction and career satisfaction.

This study shows that young employees have the highest propensity to turnover. Most of the young employees are in the lower salary bands, have one university degree, and do not have enough working experience. For a long time it has been like a culture in Botswana that most employees get sponsored for further education by their employers, especially for second degrees and short courses. The sponsorship could cover all costs such as tuition and paid leave. Those employers who cannot afford to release their employees and or pay them while they are pursuing further studies would at least make certain concessions which will allow their employees to smoothly carry on with their studies. This is engrained in the minds of employees, especially the young ones. As a result, employees jump from one job to another trying to find an employer who would be willing to meet their training needs. Indeed, 46.25 percent of all the employees indicated that one of the factors that would make them leave their current jobs would be lack of sponsorship for further education or new skills development. It is further observed that employees who fail to find any growth opportunities at their places of work indicate that their careers have been a failure which in turn contributes to turnover intentions.

Another issue that relates to growth opportunities in the Botswana context is the characteristic of the IT job market that is mainly centred on government and government related institutions. As the largest employers of most IT professionals, there is little job diversity for young citizens who may prefer to work locally, at least for now. The cultural inclination of most citizens who want to maintain close family ties still causes them to prefer to work at home and not venture outside the country. This contrasts with the IT professionals in the Igbaria and Greenhaus study in [12] who were drawn from a diverse background and worked for many organisations in the US job market. This study was undertaken prior to the 2008 recession. The 2008 recession brought a general freeze of resources and fringe benefits that affected all IT employees in the local market but we are of the opinion that the results could still hold in recession times as Laumer and Eckhardt [22] found that IT employees' thoughts about quitting their current job remained unchanged even during tough economic times.

Benson in [4] researched on two types of employee development which can be provided to employees: on-the-job training and tuition-reimbursement, which provides general or marketable skills. It was observed that on-the-job training was positively related to organizational commitment and negatively related to intention to turnover. Participation in tuition-reimbursement was positively related to intention to turnover, although the intention to turnover seemed to be reduced if after earning a degree (through tuition-reimbursement) the employees were subsequently promoted. According to Benson in [4], therefore, employees who participate in on-the-job training and gain specific skills which are relevant to their current jobs "are more committed and less likely to intend to leave the firm, while employees who participate in tuition-reimbursement express higher intention to leave the firm".

6. CONCLUSION

The study examined the factors that affect the IS employees' intention to leave their current jobs using the Igbaria and Greenhaus model in [12]. The results of the study show that role ambiguity has a negative effect on career satisfaction, while supervisor support and growth opportunity have positive effects on job satisfaction. Turnover intention is influenced negatively by internal growth opportunity, supervisor support, and job satisfaction. External career opportunity tends to have a positive significant effect on the employee's intention to quit. Most of the results obtained in this study are not in consonance with the results obtained by Igbaria and Greenhaus in [12] upon which the turnover intentions study was based. For example, Igbaria and Greenhaus found strong negative relationship between organizational commitment and turnover intention, but our study found a very non significant negative relationship between the two. Some of our results have partially corroborated the Igbaria and Greenhaus results. For example, Igbaria and Greenhaus identified that role stressors affect turnover intentions indirectly through job satisfaction. Our study found that role stressors (role ambiguity and role conflict) have non- significant negative effects on job satisfaction, whereas, job satisfaction had significant negative effect on turnover intention.

It is expected that employers in Botswana would realise the unique career needs of IS personnel in the country and emphasize growth opportunities and supervisor support as instruments for increasing the levels of job and career satisfaction of IS employees in order to reduce the rate of turnover of IS employees. High employee turnover can be a serious obstacle to productivity, quality, and profitability to firms of all sizes [11, 6]. Analysis of employee responses from the three major types of employers in Botswana shows that the government sector employees have the highest propensity to turnover because of poor supervisory support although they are happy with pay and the career development support that their employer provides. As the government continues to lay more emphasis on the use of information and telecommunications technologies in its operations it is expected that the government will continue being an important employer of IS personnel in the country. More attention should therefore be paid into ways of improving the supervisory support that is given to its employees.

This study is one of the few additions to the literature on information systems personnel turnover in developing countries. It examines turnover intentions and offers organizations the basis of focusing on ways of reducing IS employee turnover, which could be costly to organizations. Igbaria and Greenhaus in [12] suggested that further studies be conducted in different contexts. In their study, ACM members in some states in the USA were surveyed. This presents some level of professional homogeneity, which could bias the results. Our study utilized the same model, while surveying a more heterogeneous IS personnel sample in a small developing economy. The key limitation of this study is the small sample size. The utilization of regression for small sample sizes tends to produce low model power, which implies that some of the non-significant findings identified in this study could become significant with a larger sample size.

Another limitation is the instrument design, which produced single-variable factors with reliability values of 1.000. It could be argued that such factors might increase the level of bias in the regression analysis. This study focuses on Botswana, which is a relatively small economy, with peculiar characteristics. A future study could consider a larger developing economy in order to provide a basis of result generalization..

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