

EFFECT OF JOB CHARACTERISTICS ON SATISFACTION AND PERFORMANCE: A CASE STUDY OF EXTENSION WORKERS IN DAKAHALIA AND QENA GOVERNORATES

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ABSTRACT

The current study tested core dimensions of the job characteristics model (JCM) among extension workers in Egyptian agricultural extension system. Agricultural extension system was chosen due to its Expected importance in achieving sustainable agricultural strategy 2030. The paper examines the effect of core job dimensions (skill variety, task identity, task significance, autonomy, and feedback) on both affective responses represented by satisfaction, and behavioral responses represented by performance. Data were collected by group interview from 230 extension workers in Dakahalia and Qena governorates. Frequencies, percentages, arithmetic mean, reliability coefficient, multiple correlation, and multiple regression were used to analyze data statistically. Regression analysis revealed performance was not related to the core job dimensions while satisfaction was. The findings of this study offer several implications for the JCM as a theory especially, in agreement with most research, due to ability of job characteristics to predict levels of job satisfaction.

Keywords: Job characteristics, satisfaction, performance, Agricultural Extension.

INTRODUCTION

Much of the history of management and motivation theory is rooted in the desire to understand the factors that contribute to increased levels of job performance and workplace productivity. Not, surprisingly, ratings of job satisfaction have consistently served as one of the highest correlates of job performance and productivity (Gardner and Pierce,1998; Judge, *et al.*, 2001b). Accordingly, job satisfaction has been the most widely studied construct in the history of industrial/organizational psychology (Judge, *et al.*, 2001a, p.3).

Critical organizational outcomes have been associated with work design elements. However, debate among researchers is active in terms of what outcomes are really determined by work design. More specifically, it seems to be accepted by researchers that the various job dimensions have their most significant effects on intrinsic motivation and satisfaction, while the effects on actual work behaviors such as performance and turnover are not well established (Ambrose and Kulik,1999,p.7).

Meaning of Satisfaction :Job satisfaction can be defined as an individual's attitude about work roles and the relationship to worker motivation. Positive attitudes toward one's job are theoretically equivalent to job satisfaction and negative attitudes toward one's job are equivalent to job dissatisfaction (Bavendam, 2000,p.2). Employees with higher job satisfaction levels believe that working in their organization will be satisfying in the long run, that they

will care about the quality of their work, and that they will be more committed to the organization (Scott *et al.*,2005,p.89).

Importance of Studying job satisfaction: Studying job satisfaction is important because organizational productivity is influenced by the quality of the relationship between people and the jobs they do. If there is a good fit between people and their jobs, such that work is a personally rewarding experience, then there may be little for management to do to foster high motivation and satisfaction. On the other hand, if there is not a good fit between employees and their jobs and employees are dissatisfied, then there may be little that management can do to produce high productivity and job satisfaction. Internal work motivation is tied closely with how well an employee performs on the job. Therefore, it is important to address the relationship between employees and their jobs before examining other aspects of the work place (Dawal& Taha,2006,p.2).

Meaning of Performance: Performance is generally discussed within the contexts of leader behaviour, motivation, task design, goal setting, and most other primary areas of organizational research. For example, the term performance is widely used in all fields of management using terms such as performance management measurement (Armstrong 2006) and evaluation or appraisal (Murphy and Cleveland 1995). One of the pioneer researchers who conceptualized the term “performance” was Vroom (1964) who suggested an equation to picture performance and he narrated that it is a product of personal ‘ability’ and ‘motivation’ of an individual or $performance = ability \times motivation$. Vroom’s model explains that an individual who is thought to be highly motivated would not be able to perform a job well if he does not possess relevant skills, knowledge and attitudes (KSAs). In other words, both ability and motivation are essential ingredients to good employee performance. The formula to determine performance as drawn above can be implemented at various fields such as a management, education, and organization behavior. The present study used this conceptualization as a guide to investigate the relationships between the job characteristics and extension worker’s job performance.

Importance of studying performance: The success of an extension services organisation is reliant on the extension leader’s ability to optimise human resources. A good extension worker as a leader understands the importance of farmers in achieving the goals of the extension services, and that motivating these farmers is of paramount importance in achieving these goals. It has been widely accepted that effective organisations require effective leadership and that organisational performance will suffer in direct proportion to the neglect of this (Dubrin, 2007,p.8). Furthermore, it is generally accepted that the effectiveness of any set of people is largely dependent on the quality of its leadership, effective leader behavior, therefore, facilitates the attainment of the follower’s desires, which then results in effective performance (Maritz, 1995,p.5).

Dimensions of Performance: K-State Cooperative Extension Service (2006) develops a performance appraisal model for extension workers. This model assumes that performance measurement of extension workers can be

accomplished using the following dimensions: quality of work, quantity of work, team work, monitoring and evaluation system, work facilities, specific knowledge and skills, incentives and reward system, organization and customer satisfaction. However, in order to establish the content dimensions of job performance, (Viswesvaran,2001, p.113) suggests that a comprehensive specification of the content dimensions of the job performance constructs can be obtained by collating all the measures of job performance that have been used in the extant literature. In the light of the pervious performance measurement, models, roles, tasks and job descriptions of the Egyptian extension workers, therefore, for the purpose of measuring the perception of extension workers' performance, some of the above performance criteria were used in identifying the performance of extension workers.

Job Characteristics Model

One of the most popular models outlining the central antecedents of job satisfaction is known as the job characteristics model (JCM). Hackman and Oldham's (1980) job characteristics model describes the relationship between job characteristics and individual response to work. The model identified five "core job characteristics". These are :

- Skill Variety: the degree to which a job requires a worker to use different skills, abilities, or talents;
- Task Identity: the degree to which a job involves performing a whole piece of work from start to finish;
- Task Significance: the degree to which a job has an impact on the life or work of other individuals;
- Autonomy: the degree to which a job allows a worker the freedom and independence to schedule work and decide how to carry it out;
- Feed back: the degree to which performing a job provides a worker with clear information about his or her effectiveness.

The model goes on to specify the above five core job characteristics as determinants of three "critical psychological states". These are Experienced meaningfulness, Experienced responsibility, and knowledge of results. In turn, the specified critical physiological states will lead to higher internal work satisfaction, high quality performance, high satisfaction with the work, and lower absenteeism and turnover.

Hackman and Oldham developed the Job Diagnostic Survey (JDS) to measure these five core job characteristics. According to (Boonzaaier, *et al.*, 2001,p.3), the JDS can be used to :

- Diagnose jobs considered for redesign in order to establish the current potential of a job for enhancing motivation and satisfaction;
- Identify those specific characteristics that are most in need of enrichment;
- Assess the 'readiness' of employers to respond positively to improved jobs.

In Egypt the agricultural extension service is still largely the responsibility of the government through ministry of agriculture. Over the last

decade, extension service started experiencing some challenges due to socio-economic changes and agricultural sector reforms taking place in the country. Extension workers are personnel who are responsible for meeting the goals of extension system.

Accordingly, the current study aims to further address the above concern. Specifically, this paper will test the impact of core job dimensions on satisfaction (affective response) and performance (behavioral response) of extension workers in Egypt. Despite the wide research interest, it seems that the agricultural extension environment, especially in the local level, did not receive adequate attention from work design research. So, another key objective of this study is to fill this knowledge gap. In this regards, the study is designed to assess the effects of the five core job dimensions according to (Hackman & Oldham,1980) on extension workers' satisfaction and self-perceived performance.

METHODS

Population and sample

The population for this study was all extension workers employed by the extension service in Dakahalia and Qena governorates. (230) extension workers were selected for this study by Krejcie&Morgan formula (1970). Data were collected from extension workers who attended the weekly meeting which had been held in the sub-directorates in administrative districts during the period from September to October 2008.

Majority of the participants(81.3%) in this study were male ,having an average of 44.3 years .This was a well educated sample;18% of respondents held masters or doctoral degrees, the remainder holding either bachelors or associate degrees. Participants had been with ministry of agriculture an average of 18.3 years, serving in extension service for an average of 12.7 years.

Instruments

Extension workers' perceptions of the five job characteristics and their level of job satisfaction were obtained utilizing a modified version of the job diagnostic survey developed by Hackman and Oldham (1980).The job Diagnostic survey consists of seven different sections, the first five of which were used in this study. An additional section containing 8 questions created by the researcher was added to the end of the questionnaire to collect selected demographic characteristics of the respondents.

The JDS and job satisfaction consists of 27 items. Items were rated on a 5-point scale ranging from strongly agree to strongly disagree.

The self-assessed performance scale comprised of 16 items on a 5-point scale ranging from strongly agree to strongly disagree. The items were developed by the researchers depending on dimensions of performance for a performance appraisal model of K-State Cooperative Extension Service (2006) related to the following dimensions: quality of work, quantity of work,

team work, monitoring and evaluation system, work facilities, specific knowledge and skills ,incentives and reward system, organization and customer satisfaction.

Statistical Hypotheses

Based on the objectives of the study, the following five hypotheses are advanced:

- H1: There is no significant correlation relationship between every dimension of job characteristics and extension workers' job satisfaction.
- H2: There is no significant correlation relationship between every dimension of job characteristics and extension workers' self-perceived performance.
- H3: There is no significant correlation relationship between extension workers' job satisfaction and extension workers' self-perceived performance.
- H4: The independent variables (core job dimensions) would not predict levels of extension workers' job satisfaction.
- H5: The independent variables (core job dimensions) would not predict levels of self-perceived performance.

RESULTS

Scale Reliabilities

As a first step, scale reliability coefficients (cronbach alphas) for all measures adopted in this study were computed. Nunnally (1978) maintains that reliabilities which are less than 0.6 are considered poor, while those above are acceptable, while those above 0.8 are good. Results showed that reliability for JDS, satisfaction, and performance was 0.77, 0.74, 0.72 respectively.

Descriptive Statistics

The descriptive statistics for the JDS scales for extension workers are set out in Table1. The variability of the means, standard deviation, skweness and kurtosis reflects how the respondents responded to the different scales. The variability indicates that the data which were collected and analyzed were normally distributed.

Table 1 : Descriptive Statistics for the JDS

Job Characteristics	Mean Statistic	Std. Deviation Statistic	Skewness		Kurtosis	
			Statistic	Std. Error	Statistic	Std. Error
Task Variety	4.1761	.52914	-.453	.160	.772	.320
Task Significance	3.9054	.72202	-.325	.160	-.521	.320
Task identity	3.5696	.80858	-.202	.160	-.333	.320
Task Autonomy	2.8826	1.26047	.118	.160	-1.118	.320
Feed back	3.0725	.93275	.329	.160	-1.121	.320

Correlations

Correlation matrix was performed to test the hypotheses (1,2,3) of this study. Table 2 shows results of the correlation matrix among all variables in this study. There is no correlation between the dependent variables ($r = 0.073$). Most of the correlation coefficients between satisfaction and job dimensions were statistically significant and moderately correlated except for task autonomy ($r = 0.113$). Meanwhile, self-perceived performance is significantly and low correlated with job dimensions except for feed back ($r = 0.115$).

Table 2 : Correlation matrix of all variables

Variables	1	2	3	4	5	6	7
1-Task Variety	1						
2-Task Significance	.495(**)	1					
3-task Identity	.474(**)	.588(**)	1				
4-Task Autonomy	.208(**)	.222(**)	.359(**)	1			
5-Feed back	.166(*)	.394(**)	.353(**)	.151(*)	1		
6- Satisfaction	.433(**)	.468(**)	.438(**)	.113	.362(**)	1	
7-Performance	.236(**)	.184(**)	.227(**)	.199(**)	.115	.073	1

• Correlation is significant at the 0.05 level ** Correlation is significant at the 0.01 level.

Regression analysis

Two model hierarchical linear regression analyses were performed to test the hypotheses (4,5) of this study. Tables 3 shows results of the multiple regression with satisfaction as dependent variable and the five core dimensions as independent variables. The fourth hypothesis was that job characteristics factors would not predict levels of job satisfaction.

Table 3: Results of Multiple Regression between Job Satisfaction as Dependent Variable and Core Job Dimensions Analysis of Variance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	42.479	5	8.496	22.078	.000
	Residual	86.198	224	.385		
	Total	128.677	229			

Variables In The Equation

Model	Independent Variables	Un standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std.Error	Beta	B	Std. Error
1	(Constant)	-.024	.340		-.071	.944
	Task Variety	.344	.093	.243	3.704	.000
	Task Significance	.193	.076	.186	2.529	.012
	Task Identity	.156	.068	.168	2.278	.024
	Task Autonomy	-.041	.035	-.069	-1.181	.239
	Feedback	.161	.049	.200	3.301	.001

Multiple R: 0.575, R Square : .330 , Adjusted R Square : .315 , Std. Error : .62033

To test this hypothesis, the five job characteristics factors of task variety, task significance, task identity, task autonomy and feed back were entered into the first regression model as it shown in table 3. All five variables except task autonomy were found to be significant, positive predictors of job satisfaction levels.

Combined, the five job characteristics accounted for 33% of the variance in job satisfaction. These findings provide partial support for the fourth hypothesis, with the job characteristics of autonomy failing to demonstrate a clear factor predictor. Results of the second model are shown in Table 4. The dependent variable was self-perceived performance, and the five core dimensions as independent variables. The fifth hypothesis was that job characteristics factors would not predict levels of self-perceived performance. To test this hypothesis, the five job characteristics factors of task variety, task significance, task identity, task autonomy and feed back were entered into the second regression model as it shown in table 4. Unlike the first model all five variables except for task variety were found to be non significant, positive predictors of self-perceived performance levels. Combined, the five job characteristics accounted only 8.8% of the variance in self-perceived performance. These findings provide partial support for the fifth hypothesis except for task variety which succeeded to demonstrate a clear factor predictor.

Table 4: Results of Multiple Regression between Self-Perceived Performance as Dependent Variable and Core Job Dimensions

Analysis of variance

Model		Sum of Squares	Df	Mean Square	F	Sig.
2	Regression	7.431	5	1.486	4.347	.001(a)
	Residual	76.591	224	.342		
	Total	84.022	229			

Variables In The Equation

Model	Independent Variables	Un standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta	B	Std. Error
2	(Constant)	.796	.320		2.485	.014
	Task Variety	.179	.087	.156	2.047	.042
	Task Significance	.011	.072	.014	.158	.875
	Task Identity	.065	.064	.087	1.016	.311
	Task Autonomy	.061	.033	.127	1.853	.065
	Feedback	.022	.046	.034	.482	.630

Multiple R : .297, R Square: .088, Adjusted R Square: .068, Std. Error : .58474

DISCUSSION

The first regression model's finding that all job characteristics except task autonomy significantly and positively predicted levels of job satisfaction provides support for the first hypothesis, as well as the applicability of the JCM in agricultural extension work context. In the workplace, regardless of title, position or skill set, employees seem to prefer and respond positively to environments characterized by the four factors of task significance, task variety, task identity and feedback. Employees express higher levels of job satisfaction in jobs where they also believe that their tasks are important for the welfare of others, where opportunity is given to perform a variety of tasks, where involvement in projects is from inception to completion so as to facilitate understanding, and where regular feedback is provided concerning the quality of work performance. Efforts to create workplaces characterized by high levels of job satisfaction and workplace productivity, therefore, should design jobs that maximize these job characteristics.

The job characteristics of autonomy did not load cleanly on a latent factor. Although, everyone needs a degree of individual autonomy, but to measure individual autonomy in team setting, it may be important to frame individual autonomy in the context of team involvement. The failure of autonomy to load on its own factor in this study is at least partly due to the difference in meaning between individually based and team based autonomy.

The second regression model showed what we predicted regarding self-perceived performance. In this study, all core job dimensions, except for task variety came out as non-significant related to performance. Performance in this case is related to skill variety, but not other core job dimensions. This is another interesting result. It seems that extension workers perceive task variety as driver for performance. Variety of extension services is incentive for extension workers to use and acquire different skills and abilities which reflect on the performance, specifically they see task variety is a source of satisfaction.

The last conclusion about satisfaction-performance relationship. The findings showed no correlation between them. It seems that satisfaction not always follows performance. This result ensures that satisfaction in such a heavy expatriate environment could be related more to extrinsic factors such salaries, benefits, contract renewals, etc.

Ideas for future research

This study has helped fill a gap in the research literature for the applicability of the JCM to extension work, however, much more remains to be studied in this area. Future studies looking at the JCM would benefit by being longitudinal in nature, to assess the stability of perceptions. In addition, this study used self-perceived performance which is a limitation and it would be of value to try to independently measure performance. Also, worthy of scholarly attention is the assessment of effects that experience, level of skills, career aspirations have on satisfaction and performance. In addition, role of growth needs strength as a moderator between job characteristics and

satisfaction could be examined to know how to motivate extension workers to recognize their need of growth, and how to create jobs that fulfill this basic human need.

Conclusion

This study has provided support for the applicability of the JCM to agricultural extension work. By broadening the viability of the job characteristics of task significance, task variety, task identity, and feed back , it gives credence to theories espousing their universal importance across work setting.

So far as the evidence at this early stage suggests, Egyptian agricultural extension system will benefit by looking into the impact of job design by training their managers to acquire redesign skills. There might be added value in terms of satisfaction and performance of extension workers if extension system refine the process by which they design tasks and jobs.

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**تأثير خصائص المهام الوظيفية على الأداء والرضا الوظيفي :
دراسة حالة للمرشدين الزراعيين بمحافظتى الدقهلية وقنا
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استهدفت الدراسة الراهنة إختبار نموذج خصائص الوظيفة (JCM) فى النظام الإرشادى الزراعى المصرى ، وذلك من خلال دراسة خصائص المهام الوظيفية الرئيسية (تنوع المهام ، ووحدة المهام، وأهمية المهام ، والإستقلالية ، والتغذية الراجعة) على الرضا والأداء الوظيفى للمرشدين الزراعيين بالجهاز الإرشادى الزراعى المصرى بمحافظتى الدقهلية وقنا. وقد تم تجميع بيانات الدراسة من خلال الإستبيان بالمقابلة الجماعية لـ (٢٣٠) مرشد زراعى بمحافظتى الدقهلية وقنا أثناء الإجتماع الأسبوعى بالإدارات الزراعية المختارة ، وقد تم إستخدام التكرار، والنسب المئوية ، والمتوسط الحسابى ، والإرتباط المتعدد ، والإنحدار المتعدد ، كأدوات للتحليل الإحصائى وعرض نتائج الدراسة. وقد أشارت نتائج تحليل الإنحدار المتعدد بأن متغيرات خصائص الوظيفة لا ترتبط معنويا بالأداء الوظيفى بإستثناء تنوع المهام ، فى حين إرتبطت متغيرات خصائص الوظيفة معنويا بالرضا الوظيفى بإستثناء إستقلالية المهام .

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