



## Ranking of Innovation Factors of Employees' Job Performance

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**Abstract:** This paper presents the ranking of innovation factors affecting employees' job performance of Abu Dhabi government sector. Three hundred questionnaires were distributed among employees in the Ministry of Culture, Youth and Community Development UAE. The respondents were requested to rate 23 identified innovation factors which are clustered into four groups using 5-point Likert scale with scale 5 for extremely significant to scale 1 for not significant. However only 265 valid responses were recovered from the survey. The data collected from the survey was analyzed descriptively using mean score index and standard deviation to determine the ranking of each factor. For product innovation group, the highest rank of factor is product extension through technologically new products; while in marketing innovation the highest rank of factor is improving sales promotion tools; subsequently, in process innovation the highest ranked of factor is develop new and improve production layout and lastly, in organization innovation the highest ranked of factor is effective and efficient work processes. The findings from this study hopefully can benefit the government organization performance.

**Keywords:** Innovation factors, job performance, public sector

### 1. Introduction

Job performance is an important variable in working organization and become an important indicator of organizational performance in many studies (Wall et al., 2004; Bakotic, 2016; Fogaca et al., 2018). Employee performance can also be measured by a combination of expected behaviour and task related aspects, although performance is often seen as financial data. Performance-based on absolute or relative judgments may replicate performance across the organization (Gómez-Mejía, Balkin & Cardy, 2007; Wall et al., 2004; Inuwa, 2016). However, (Wiedower, 2001) states that performance evaluation based on performance evaluation projects provides higher reliability in performance evaluation.

High-performing employees pursue higher levels of personal and organizational performance involving quality, productivity innovation and cycle performance time (Bharadwaj, 2005; Shoss et al., 2012) as such, they can help organizations achieve their strategic goals and maintain their competitive advantage (Dessler, 2011; Shoss et al., 2012; Inuwa, 2016). Therefore, to attract and maintaining higher employee satisfaction and performance, employers must treat their employees as the most important internal resources, as loyal and satisfied employees often helps to increase organizational productivity (Samad, 2007; Shoss et al., 2012; Fogaca, 2018).

UAE has implemented substantial reforms, accomplishing extraordinary economic and market growth, and forming a robust position in the business world. It has reached the necessary levels of modernization, industrialization, and rapid economic growth that are regarded in a transitional period between a developing and a developed market economy (UAE MFT, 2012; OBG 2016). Nevertheless, the challenge remains as the Global Competitiveness Index (GCI) rates the UAE, as the 25th out of 139 countries and scores 4.9 out of 7 index points correspondingly, with the basic requirements of 8 and 5.8, efficiency enhancers of 21 and 4.8, and innovation and complexity factors of 27 and 4.4 (UAE MFT, 2012; OBG 2016). Therefore, these are areas for improvement in the innovation and sophistication parameters where the UAE at present lags in contrast to other industrialized markets and economies with an innovation score of 3.4 and an index of 6.69, which is below the World Index average of 8.11.

Achieving superior and effective performances at global environment for public and private sector organisations are more critical now than ever before to remain competitive. Thus, organizations should be able to improve by providing better service at minimum costs. The current economic environment need public sector to improve its performance comparable to the private sector which seems more efficient. To improve and sustain the organization performance, it improvement processes and additionally motivating employees to give their best effort on the job performance (Sanderson et al., 2009). Undeniably, many of the transformation failed because the underlying factors that drive the performance of people are not comprehensively addressed. Some of these factors are employee engagement (Ibrahim & Falasi, 2014), condition of service, remuneration (Al Naqbi et al., 2018), management capability, job security, creativity and innovation (Mohamed et al., 2018; Sanderson et al., 2009). Since job performance in the government sector is seldom satisfactory as compared to that of the private sector, the present research was intended to empirically evaluate innovation factors which could affect the job efficiency of staff in the public organisation UAE government.

## 2. Literature Review

There are four dimensions of innovation which are considered in this study. The four innovations are product innovation, process innovation, organizational innovation and marketing innovation with employees’ job performance.

### 2.1 Product Innovation Factors

Internal innovation such as designing new tools alters the way employees do their job (Umashankar et al., 2011). Product innovation benefits the employees in terms of for competency and motivation through creating new tools to solve problems, and encourage creative thinking (Rostami & Branch, 2011). Creativity is born when employees have the right skills, being in the conducive environment and supported by the leadership, who not only cultivate their ideas but drive innovation and action (Rostami & Branch, 2011). Thus, it is essential for managers to create an environment that motivates employees giving them a sense of accomplishment in their work (Sadikoglu & Zehir, 2010). The empirical study by Awan & Javed (2015) shows that product innovation and employee performance have a significant positive relationship in Pakistan telecom industries. Hence, the product innovation factors that can be extracted from these studies are as in table 2

**Table 2 - List of Factors in Product Innovation**

Group	Code	Factors	References
Product	ProdI1	Replaced phased out products	Umashankar <i>et al.</i> , 2011; Rostami & Branch, 2011; Sadikoglu & Zehir, 2010; Awan & Javed, 2015
	ProdI2	Product extension through technologically new products	
	ProdI3	Product extension through technologically improvement	
	ProdI4	Product extension is done outside main product field	
	ProdI5	Development of environment-friendly products	
	ProdI6	Frequent creation of a new products or a new component	
	ProdI7	Improvement of product quality and efficiency	

### 2.2 Marketing Innovation Factors

Market innovation shapes customer satisfaction, sales and market share can be enhanced through market innovation. Hence, it should be given due importance to market innovation (Awan & Javed, 2015). Findings of the study from (Awan & Javed, 2015) support that innovativeness is the only way for a firm to gain a sustainable competitive advantage and to move up its employee performance (Porter, 1990 & Drew, 1997). The positive influence of adaptability and consistency

with involvement and mission includes (Brockman & Morgan, 2003) that found positive relationship between innovation and performance. (Awan & Javed, 2015) called for further research to clarify the relationship between market innovation and employee performance. According to them, the factor influencing this relationship may differ according to the area and cultural context. Hence, the marketing innovation factors that can be extracted from these studies are as in table 3

**Table 3 - List of Factors in Marketing Innovation**

Group	Code	Factors	References
Marketing	MktI1	Market share capture is evolutionary	Awan & Javed, 2015; Porter, 1990 & Drew, 1997; Porter, 1990 & Drew, 1997
	MktI2	Opening new markets abroad	
	MktI3	Capturing new domestic target groups	
	MktI4	Improving sales promotion tools	
	MktI5	Operating an online medium of sales	
	MktI6	Commencing of know your customer (KYC) strategy	
	MktI7	Improved product packaging and labelling	

### 2.3 Process Innovation Factors

Process innovation helps organization to learn and search for new idea through external technologies knowledge and it was found that process innovation has significant impact towards employee performance (Dasgupta & Gupta, 2009; Camison & Villar-Lopez, 2014; Awan & Javed 2015). Process innovation increases the value of service product innovation through electronic linkages that could alter the ways of acquiring and delivering information (Tsou, 2012). The underpinning idea of process innovation is that technology had to change the way of working and therefore machines and tools have to be more flexible, user-friendly human-machine, and could ease the process of work (Sabadie, 2014). (Awan & Javed, 2015), found the positive and significant relationship between a process innovation and employee performance in the Pakistani telecom industry. Hence, the process innovation factors that can be extracted from these studies are as in table 4.

**Table 4 - List of Factors in Process Innovation**

Group	Code	Factors	References
Process	MktI7	Improved product packaging and labelling	(Dasgupta & Gupta, 2009; Camison & Villar-Lopez, 2014; Awan & Javed 2015); (Tsou, 2012). (Sabadie, 2014)
	ProcI1	Develop new and improve production layout	
	ProcI2	Develop new and improving existing production technique	
	ProcI3	Acquiring new and efficient machinery for the production	
	ProcI4	Automation of production processes	

### 2.4 Organizational Innovation Factors

Organizational innovation relates to all of the administrative efforts of renewing the organizational routines, procedures, mechanism and systems in the organization (Gunday et al., 2011). Organizational innovation has a strong relationship with employee performance (Awan, Javed, 2015). Firms tend to innovate their administrative procedures to increase firm performance by reducing administrative and transaction costs, improving workplace satisfaction (OECD Oslo Manual, 2005). In addition, organizational innovation not only requires a team of creative performance but also activities at the organizational level that may create a creative output of the firm (Aime, Dyne & Petrenko, 2011). Similarly, (Awan & Javed, 2015) found a positive relationship between organizational innovation and employee performance. Hence, the organizational innovation factors that can be extracted from these studies are as in table 5.

**Table 5 - List of Factors in Organizational Innovation**

Group	Code	Factors	References
Organizational	OrgI1	Electronic invoicing	Gunday <i>et al.</i> , 2011; Awan, Javed, 2015; Aime, Dyne & Petrenko, 2011
	OrgI2	strong partnership with successful firms	
	OrgI3	Outsourcing of employees, suppliers and new projects	
	OrgI4	Effective and efficient work processes	
	OrgI5	Beautiful physical structure	

### 3. Methodology

Quantitative research is employed in this research study due to its advantages over qualitative research as well as the nature of the investigation on the operating variables. The benefit of using this approach is the comparative ease and reduced time and cost with regards to questionnaire distribution and data collection to and from the sample of respondents. There is also a vast range of statistical tools and software programs available for researchers to analyses the data. Furthermore, with the quantitative approach, larger samples can be utilized to gather information that suits the sample size perfectly (Holstein & Gubrium, 2004).

Structured questionnaire used in this study was designed to gauge the significant factors of innovation approach affecting employee job performance in the government sector. Besides the respondents’ demography, the main content of the questionnaire is the list of innovation factors with five-point Likert scale from strongly not significant to strongly significant. The questionnaire survey sample of this study was based on the population of employees in the Ministry of Culture, Youth and Community Development UAE and it was extracted from the report of UAE INTERACT 2017. The report stated that there are 1120 employees which were categorized into management staff, human resource staff, employee relations staff, operations staffs and training staff departments. The study used probability sampling techniques that are primarily used in quantitatively oriented studies and involve choosing a relatively large portion of the population, or from specific subgroups (strata) of a population, in a random manner. This entails the probability of including every member of the population in the survey (Tashakkori et al., 2003).

With the population of 1120 employees and using (Krejcie & Morgan, 1970) table, the proposed number of sample is between 285 - 291 respondents. Hence three hundred (300) questionnaire were distributed the staffs/employees of the ministry. However only 265 valid responses were recovered from the survey. Even though it is less than the minimum sample size but following (Agundu & Ironkwe, 2014) statement that researchers should not consider less than 10% of the population under review then the valid sample size can be accepted.

#### 3.1 Data Reliability test

Before the collected data can be used for further analysis, the data was checked for its reliability and consistency using the reliability test and the results are as table 1

**Table 1 - Reliability Test**

Types of factors	Number of items/factors	Cronbach's Alpha value
Product	7	0.786
Marketing	7	0.800
Process	4	0.830
Organizational	5	0.819
Overall Innovation dimension	23	0.801

Table 1 shows the results of reliability test of all the factors and it indicates that the collected data are having Cronbach’s alpha values of around 0.8. This means that the data are reliable as according to (Yahaya et al., 2011) which stated that alpha value in the range 0.8 to 1 is considered highly reliable and valid. Thus, the internal consistency of questionnaire items for this study is considered acceptable.

### 4. Ranking of Innovation Dimension Factors

The collected data from questionnaire survey was analysis to rank the 23 factors of innovation approach toward the employees’ job performance using the functions of mean score and standard deviation of SPSS software. Referring to

the questionnaire, each factor of the 23 factors was assigned with 5-points Likert scale on the degree of significant toward job performance and respondents were requested to rate each factor using the scale. The factors were ranked based on its mean score, the highest rank of number one should have highest mean score value. If two or more factors having the same mean score, the rank is decided with the standard deviation values. Lower standard deviation value mean that the judgments between the respondents are almost equal which indicate factor having lower standard deviation value is better and should be given higher rank. The ranking of the 23 factors of the innovation dimension within the four groups that are product, marketing, process and organization are as displayed in Table 6.

**Table 6 - Ranking of Innovation Dimension Factors**

Group	Code	Factors	Mean	STDV	Rank
Product	ProdI1	Replaced phased out products	4.25	.643	6
	ProdI2	Product extension through technologically new products	4.35	.623	1
	ProdI3	Product extension through technologically improvement	4.31	.610	4
	ProdI4	Product extension is done outside main product field	4.28	.606	5
	ProdI5	Development of environment-friendly products	4.22	.615	7
	ProdI6	Frequent creation of a new products or a new component	4.32	.596	3
	ProdI7	Improvement of product quality and efficiency	4.34	.614	2
Marketing	MktI1	Market share capture is evolutionary	4.27	.617	7
	MktI2	Opening new markets abroad	4.27	.615	6
	MktI3	Capturing new domestic target groups	4.31	.622	4
	MktI4	Improving sales promotion tools	4.43	.594	1
	MktI5	Operating an online medium of sales	4.37	.656	2
	MktI6	Commencing of know your customer (KYC) strategy	4.34	.608	3
	MktI7	Improved product packaging and labelling	4.30	.603	5
Process	ProcI1	Improved product packaging and labelling	4.27	.640	4
	ProcI2	Develop new and improve production layout	4.43	.592	1
	ProcI3	Develop new and improving existing production technique	4.43	.593	2
	ProcI4	Acquiring new and efficient machinery for the production	4.38	.623	3
Organization	OrgI1	Electronic invoicing	4.03	1.463	4
	OrgI2	strong partnership with successful firms	4.29	1.350	2
	OrgI3	Outsourcing of employees, suppliers and new projects	4.06	1.541	3
	OrgI4	Effective and efficient work processes	4.42	1.259	1
	OrgI5	Beautiful physical structure	3.97	1.452	5

For product innovation group, the highest rank of factor is product extension through technologically new products; while in marketing innovation the highest rank of factor is improving sales promotion tools; subsequently, in process innovation the highest ranked of factor is develop new and improve production layout and lastly, in organization innovation the highest ranked of factor is effective and efficient work processes.

## 5. Conclusion

This paper has presented a study on determining the significant ranks of each innovation factors from four groups which are product, marketing, process and organizational innovations toward the employees' job performance. These factors were evaluated by employees of the Ministry of Culture, Youth and Community Development UAE using questionnaire survey. The analysis of the survey found that for product innovation group, the highest rank of factor is product extension through technologically new products; while in marketing innovation the highest rank of factor is improving sales promotion tools; subsequently, in process innovation the highest ranked of factor is develop new and improve production layout and lastly, in organization innovation the highest ranked of factor is effective and efficient work processes. The findings from this study hopefully can benefit the government organization performance in the context of innovation approach.

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