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## Identifying the Effective Personality Factors Contributing to the Enhancement of Creativity among Telecommunication Company Employees

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**Abstract** The aim of this study was to identify affecting personality factors in the promotion of creativity among the Telecommunication employees in the province of Hormozgan. The research method was descriptive and causal-comparative. The study's statistical population included all employees of Telecommunication in Bandar Abbas city. The sample consisted of 60 people who were selected by purposeful sampling method on the basis of psychological and personality symptoms. NEO-FFI personality traits and Abedi creativity questionnaires were used to collect the required data for the study. Data were analyzed using multivariate analysis of variance. The results showed that among personality factors, introversion- extroversion, responsibility, enthusiasm, and Agreeableness have significant impact on the creativity of employee and only Neuroticism has no effect on promoting creativity. Accordingly, personality factors can be effective in promoting employee's creativity.

**Keywords:** personality factors, creativity, employees

### Introduction

Nowadays, organizational innovation is important for success and survival of companies in the competition because innovation acts as a key determining element for companies operating in this position (Aram, 2007).

When employees are competent and creative in their work, they will be able to present and apply innovative and useful ideas about products, practices, services, or organizational procedures (Runco, 2007). Therefore, the production and utilization of new ideas would allow the organization to adapt changing conditions, and give timely responses to threats and opportunities to grow and develop (Witkin and Cox, 1977).

Creativity of the individual depends on his psychological and personality characteristics (Woodman, Sawyer and Griffin, 1993). Some researchers have found that some psychological and personality characteristics in individuals cause more creativity than others (Barbara and Kamea, 2003). Meta-analytic studies have shown that neuroticism, extraversion, and openness are positively related to creativity, while agreeableness and conscientiousness are negatively associated with creativity (Bakhtari, 1392).

Organizations will be better able to adapt to changes and compete with empowered, committed, skilled and motivated employees. Empowering is the healthiest way of sharing other employees in power. In this way, the sense of confidence, doubled energy, pride, and self-reliance is created in the people and the sense of participation is increased in organizational matters and ultimately will be followed by improving the performance (Iran Zade, and Babae Heravi, 2009).

Empowerment is a personal belief by which individual's skills and knowledge improve and people abide by it (Bogler and Somech, 2004). Empowerment is the process of empowering the people. This process will help staff to improve their self-esteem and come over the feeling of

helplessness and frustration (Seidi and Pak Nejad, 2012).

The innovation can be defined as "the process of creating new technology", "the process of improving existing technology," and " the process of the conversion of opportunities to practical exploit" (Saeedi et al., 2010). Hence, given the importance of creativity and innovation in the organization and the improvement of organizational goals, identifying effective factors contributing to its enhancement is of the essential and important requirements that telecommunications companies would not be an exception.

Empowering is encouraging people to participate more in decision-makings that are affective in their activities. Through the process of empowerment, the staff is given opportunities to create pleasant ideas and realize them (Scott and Jaffe, 2005). Other researchers also know the empowerment as the factor of increasing the staff's self-efficacy (Conger and Kanungo, 1988) and staff's occupational motivation (Thomas & VeltHouse, 1990). This study intends to study the impact of personality factors on employees' creativity in Telecommunications Company as a large privatized company.

### **Methodology**

This study was descriptive research and was conducted by causal-comparative method. The statistical population was comprised of all the employees of Telecommunication Company of Hormozgan province. The research sample consisted of 60 subjects who were selected using purposeful sampling among the entire staff. Based on this, the sample were selected among the employees with different occupational backgrounds and based on the dispersion in the psychological and personality levels.

Questionnaire was used in order to collect data for this study. The research questionnaires were as follows:

NEO-FFI Personality Traits Questionnaire: The questionnaire contains 60 articles and calculates five personality traits. Gustav McKerry studied the correlation between personal accounts and peer on a sample of 250 patients to calculate the validity of the test the correlations of which were evaluated as 0.3 to 0.65 (Garossi, 2001; quoted in Muhammadi, 2007).

Abedi's Creativity Inventory: it is a 60-question three-option test which was set by Abedi, O'Neill & Spielberg in 1996. In this test, zero score for option (a), a score for option (b) and two scores are considered for option (c). The sum of these scores indicates the total score of a person's creative thinking. validity correlation coefficients between four scores of Torrance's creativity test and four scores of Abedi creativity test is from 0.15 to 0.41 and the reliability of Abedi creativity test in four subscales is in the range of 0.61 to 0.75 (Ahmadi, 2007).

### **Results**

The descriptive results related to the research variables are presented first. Multivariate analysis of variance (MANCOVA) was used in order to evaluate the effect of personality factors on promoting creativity of employees of Telecommunication Company in Bandar Abbas the results of which are as follows. Results indicate that there is no significant difference between employees with Neuroticism and without Neuroticism according to  $p = 0.5$ . The results in the table above indicate that Neuroticism had no significant effect on the subscales of creativity given that the  $p$  value is less than 0.05. Results in table 5, indicate that there is a significant difference in at least one of the dependent variables (subscales of creativity) between employees with and without Neuroticism given that the  $p$  is equal to 0.003. The results

in the table 6 suggests that introversion-extraversion has a significant impact only on the subscale of initiative ( $p= 0.01$ ) and has no effect on the subscale of flow ( $p= 0.7$ ), expansion ( $p= 0.2$ ) and flexibility ( $p=0.7$ ).

**Table1.** Mean and standard deviation related to the scores of personality factors in the sample

Variable	Group	N	Min.	Max.	Mean	SD
<b>Neuroticism</b>	Moderate	43	30	47	38.55	8.247
	High	17	31	58	46.83	12.512
<b>Introversion- extroversion</b>	Moderate	45	28	48	41.88	6.626
	High	15	47	56	51.66	3.076
<b>Conscientiousness</b>	Moderate	47	31	47	39.96	5.856
	High	13	45	55	51.5	3.674
<b>Agreeableness</b>	Moderate	49	33	48	39.22	5.116
	High	11	49	55	52	2.529
<b>Responsibility</b>	Moderate	41	24	47	42.87	7.242
	High	19	45	55	48.16	3.816

**Table2.** Mean and standard deviation of creativity scores in the sample

Variable	N	Min.	Max.	Mean	SD
<b>Flow</b>	60	41	54	46.96	3.645
<b>expansion</b>	60	16	24	20.61	1.966
<b>Initiative</b>	60	24	39	31.46	3.336
<b>flexibility</b>	60	19	31	25.56	2.683
<b>Sum (creativity)</b>	60	113	144	124.61	8.059

**Table3.** Summary results of Neuroticism multivariate analysis of covariance on creativity score

Effect	Test	Value	F	df hypothesis	df error	Sig.
<b>Process</b>	Philai effect	0.051	0.733	4	55	0.5
	Lambda Wilks	0.949	0.733	4	55	0.5
	Hoteling effect	0.053	0.733	4	55	0.5
	The biggest Roy root	0.053	0.733	4	55	0.5

**Table4.** Results of ANOVA in the context of Neuroticism MANCOVA on scores of creativity

Creativity	SS	DF	MS	F	P
<b>Flow</b>	1.613	1	1.613	0.12	0.7
<b>Expansion</b>	1.65	1	1.65	0.422	0.5
<b>Initiative</b>	8.318	1	8.318	0.744	0.3
<b>Flexibility</b>	1.762	1	1.762	0.242	0.6

**Table 5.** Summary results of introversion- extraversion multivariate analysis of covariance on creativity scores

Effect	Test	Value	F	df hypothesis	df error	Sig.
<b>Process</b>	Philai effect	0.249	4.569	4	55	0.003
	Lambda Wilks	0.751	4.569	4	55	0.003
	Hoteling effect	0.332	4.569	4	55	0.003
	The biggest Roy root	0.332	4.569	4	55	0.003

**Table6.** Results of ANOVA in the context of introversion- extraversion MANCOVA on the creativity scores

Creativity	SS	DF	MS	F	P
<b>Flow</b>	1.8	1	1.8	0.133	0.7
<b>Expansion</b>	6.05	1	6.05	1.58	0.2
<b>Initiative</b>	60.089	1	60.089	5.839	0.01
<b>Flexibility</b>	1.089	1	1.089	0.149	0.7

**Table 7.** Summary Results of enthusiasm multivariate analysis of covariance on the creativity scores

Effect	Test	Value	F	df hypothesis	df error	Sig.
<b>Process</b>	Philai effect	0.175	2.909	4	55	0.03
	Lambda Wilks	0.825	2.909	4	55	0.03
	Hoteling effect	0.212	2.909	4	55	0.03
	The biggest Roy root	0.212	2.909	4	55	0.03

Results indicate that there is a significant difference in at least one of the dependent variables (subscales of creativity) between employees with high and medium enthusiasm, given that  $p=0.003$ .

**Table 8.** Results of ANOVA in the context of enthusiasm MANCOVA on the creativity scores

Creativity	Sum of squares	DF	Mean squares	F	P
<b>Flow</b>	4.234	1	4.234	0.315	0.5
<b>Expansion</b>	0.386	1	0.386	0.098	0.7
<b>Initiative</b>	66.043	1	66.043	6.483	0.01
<b>Flexibility</b>	15.673	1	15.673	2.222	0.1

Results of the table above showed that the enthusiasm has a significant impact only on the subscale of initiative ( $p=0.01$ ) and has no effect on the subscale of flow ( $p=0.5$ ), expansion ( $P=0.7$ ) and flexibility ( $P=0.1$ ).

**Table 9.** Summary results of agreeableness multivariate analysis on the scores of creativity

Effect	Test	Value	F	df hypothesis	df error	Sig.
<b>Process</b>	Philai effect	0.236	4.256	4	55	0.005
	Lambda Wilks	0.764	4.256	4	55	0.005
	Hoteling effect	0.31	4.256	4	55	0.005
	The biggest Roy root	0.31	4.256	4	55	0.005

Results indicate that there is a significant difference in at least one of the dependent variables (subscales of creativity) between employees with high and medium agreeableness, given that  $p=0.003$ .

**Table 10.** Results of ANOVA in the context of agreeableness MANCOVA on the creativity scores

Creativity	SS	DF	MS	F	P
<b>Flow</b>	10.33	1	4.234	0.775	0.3
<b>Expansion</b>	5.797	1	10.33	1.512	0.2
<b>Initiative</b>	113.041	1	5.797	12.055	0.001
<b>Flexibility</b>	15.412	1	113.041	2.184	0.1

Results of the table above showed that agreeableness has a significant impact only on the subscale of initiative ( $p=0.001$ ) and has no effect on the subscale of flow ( $p=0.3$ ), expansion ( $P=0.2$ ) and flexibility ( $P=0.1$ ). Results indicate that there is a significant difference in at least one of the dependent variables (subscales of creativity) between employees with high and medium responsibility, given that  $p=0.05$ .

**Table11.** Summary Results of responsibility multivariate analysis of covariance on the creativity scores

Effect	Test	Value	F	df hypothesis	df error	Sig.
<b>Process</b>	Philai effect	0.153	2478	4	55	0.05
	Lambda Wilks	0.847	2.478	4	55	0.05
	Hoteling effect	0.18	2.478	4	55	0.05
	The biggest Roy root	0.18	2.478	4	55	0.05

Results indicate that there is a significant difference in at least one of the dependent variables (subscales of creativity) between employees with high and medium responsibility, given that  $p = 0.05$ .

**Table12.** Results of ANOVA in the context of responsibility MANCOVA on the creativity scores

Creativity	SS	DF	MS	F	P
<b>Flow</b>	10.899	1	10.899	0.818	0.3
<b>Expansion</b>	1.438	1	1.438	0.368	0.5
<b>Initiative</b>	28.390	1	28.390	2.62	0.1
<b>Flexibility</b>	26.444	1	26.444	3.851	0.05

Results of the table above showed that responsibility has a significant impact only on the subscale of flexibility ( $p = 0.05$ ) and has no effect on the subscale of flow ( $p = 0.3$ ), expansion ( $P = 0.5$ ) and initiative ( $P = 0.1$ ).

## Conclusion

The aim of this study was to identify psychosocial factors associated with promoting Telecommunication employees' creativity. Results showed that personality factors are effective at promoting employee creativity. All experts do agree that creativity is an element related to psychological characteristics of people and is directly affected by individuals' personality and psyche. Results of this study also showed that the excess of some indicators and the lack of others have direct connection with employee creativity. Barron and Harrington (1981) have also stated that some mental characteristics cause more creativity and ability. It seems that whatever people have desirable psychologically and personally, they can have more creativity and empowerment.

The results in this study along with the results of other research showed that neuroticism, extroversion, enthusiasm, flexibility, agreeableness and conscientiousness affect on different aspects of creativity and empowerment (Fyst, 1998; Chamorro, Prmvzyc, Rychnbachr, 2008). In fact the results certify the role of personal and psychological factors in explaining the creativity and empowerment of employees. There are different views that believe we can teach people to think about uncommon methods and solve the problems through divergent thinking in order to reach the best solution and in other words, change into creative and empowered people. In other words, we should allow instructors to think in this area that the flow of creativity and empowerment is not a pre-made stream, but a creative and changeable way (Salmanian, 2009). It seems that educating people should be based on their psychological and personal issues due to the impact that psychological and personal factors have on the creativity and empowerment of employees.

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