

**ANALYSIS THE EFFECT OF INDIVIDUAL CREATIVITY ON THE
EMPLOYEES ENGAGEMENT AT WORK
(CASE STUDY: AGRICULTURE ORGANIZATION OF QOM)**

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Abstract

This study was carried out aimed at determining the effect of individual creativity components on employee s Engagement at work in the central staff of Agriculture Organization of Qom. Research variables include any types of individual creativity components (ambiguity tolerance, listening to inner voice, lateral thinking, ideas collection and development, prevention from hasty evaluation of ideas, steps of comparison, welcoming fortuity) which have been as independent variables, and employee s Engagement at work as a dependent variable. To collect required data, two valid and reliable questionnaires were used which had been used in the previous studies. Then, two questionnaires were implemented by Pilot-Study method and Cronbach alpha coefficient obtained 87.52 and 89.24 respectively. By utilization of correlation method, SPSS software, multiple regressions, Pearson test, and also Freidman test have been used for data analysis. The results of hypotheses tests which calculated in confidence level 95% indicated that all research hypotheses were confirmed.

Keywords:

Individual creativity, employee s Engagement at work, Agriculture Organization of Qom

Introduction

It is necessary to gain sufficient knowledge about how creativity affects planning to achieve goals. Briefly, in creativity literature in the field of organization and individual, it is demonstrated different categories which influence the capacity of individuals' creativity and innovation inside and outside of organization (Standy & Tomas, 2008, pp. 551-552).

Engagement is a complex topic and a challenging goal. An engagement-friendly culture values the diversity of talents employees bring to the table, respects individual needs, and inspires all employees to pursue a common and exciting vision of the future. Logically, engagement will not be impacted by a single training program, regardless of its quality. Enhancing engagement is a long-term proposition.(Mello & Wildermuth,2008)

Engagement at work has emerged as a potentially important employee performance and organizational management topic. A growing body of evidence supports the relationship between engagement of the employee at work and organizational outcomes, including those which are performancebased (Harter et al., 2002; Laschinger and Finegan, 2005; Laschinger and Leiter, 2006; Salanova et al., 2005; Schaufeli and Bakker, 2004).

People who have more creativity can adjust their time so that resulted in more employee s Engagement at work. This paper has been studied the effect of individual creativity components on the employee s Engagement at work of Agriculture Organization of Qom

Individual creativity

Creativity may be considered as the highest level of human learning, the highest thinking potency, and the final product of human's mind and thought (Soleimani, 2005, p. 16). Dewett (2004) believes that in the organization creativity is often defined as creating efficient and novel ideas (Dewett, 2004, p.257). Creativity is dealt with thinking, finding new opinions and methods, and innovation in the use of them. In management, only creativity isn't sufficient but ideas must be converted to act. So, new ideas must be used in the adjustment of managerial programs (Rezaeiyan, 2006, p. 104). However, creativity is an ability which helps people identifies possible solutions. If someone can maximize the result of decision-making, he/she will be termed as a rational person (Robbins, 2010, pp. 120-123).

Employee engagement

The final line of research that has considered engagement within the employee work role can be found in the work of Harter et al. (2002, 2003). Over the course of 30 years, The Gallup Organization researchers indicate thousands of investigations of successful employees, managers, and productive work groups have led to the development of their employee engagement model. While there is agreement with Kahn's personal engagement definition (1990; 1992), Harter et al.(2002, 2003) refer to employee engagement as occurring when individuals are emotionally connected to others and cognitively vigilant and is understood to be "the individual's involvement and satisfaction as well as enthusiasm for work" (Harter et al., 2002, p. 269).

In the model of employee engagement delineated by Harter et al. (2003), four antecedent elements deemed necessary for engagement to occur within the workplace include: (a) clarity of expectations and basic materials and equipment being provided, (b) feelings of contribution to the organization, (c) feeling a sense of belonging to something beyond oneself, and (d) feeling as though there are opportunities to discuss progress and grow. The measurement of employee engagement focuses on these antecedent elements.

The instrument, named The Gallup Workplace Audit, is comprised of 12 items that measure employee perceptions of work characteristics (Harter et al., 2002). Harter et al. report these 12 items explain a large portion of the variance in "overall job satisfaction" and are antecedents of personal job satisfaction and other affective constructs. In 2002, Harter et al. reported the results of a meta analysis that includes Gallup data from 42 studies conducted in 36 independent companies. This meta-analysis provides empirical evidence for the relationship between employee engagement and several organizational outcomes. Employee turnover, customer satisfaction-loyalty, and safety resulted in the strongest relationships to employee engagement ($r = 0.30$; $r = 0.33$; $r = 0.32$, respectively). Productivity and profitability also demonstrated positive correlations ($r = 0.25$; $r = 0.17$, respectively) (but of a lower magnitude) to engagement. In relation to the composite business performance (which included customer satisfaction-loyalty, profitability, productivity, and employee turnover outcomes) within a given company, "the business units above the company median on employee satisfaction-engagement realized 0.43 standard

deviation higher performance in comparison to business units below the median'' (Harter et al., 2002, p. 274). In addition, while there can be no causal claims made from these findings, the variation in unit performance within an organization points to those factors that are most proximal to the employee. Employees' satisfaction with the manager or leader of the unit is cited as one such proximal factor.

A single study investigating employee engagement among nurses, as measured by The Gallup Work Audit, is found in Cathcart et al. (2004). In this study, the relationship between nurses' employee engagement and nurse manager span of control was investigated. Study results suggest nurses' employee engagement is higher when unit managers' span of control is lower. By decreasing four managers' span of control by 30–50%, positive increases in employee engagement scores were found. While means and number of employees per work group were provided, statistical analysis was absent from this report. The authors do acknowledge the quantitative effects of the changes made to nurse managers' span of control may not be fully realized; however, they indicate the qualitative effects are evident within the health system these changes occurred.

Engagement at work

The term engagement, understood within the context of the employee work role, began to emerge within the organizational psychology and business literature some 15 years ago and more recently is noted within the nursing workforce.

To date, four lines of research characterize this study topic and include personal engagement, burnout/engagement, work engagement, and employee engagement. Engagement at work research has developed in a relatively sequential manner and as summarized in Table 2, the four constructs (as listed above) are defined and measured differently. This following section begins with the study of personal engagement, the earliest of the engagement at work constructs, and proceeds through the remaining three constructs used to describe, measure, and empirically test this phenomenon.

Research hypotheses

Main hypothesis

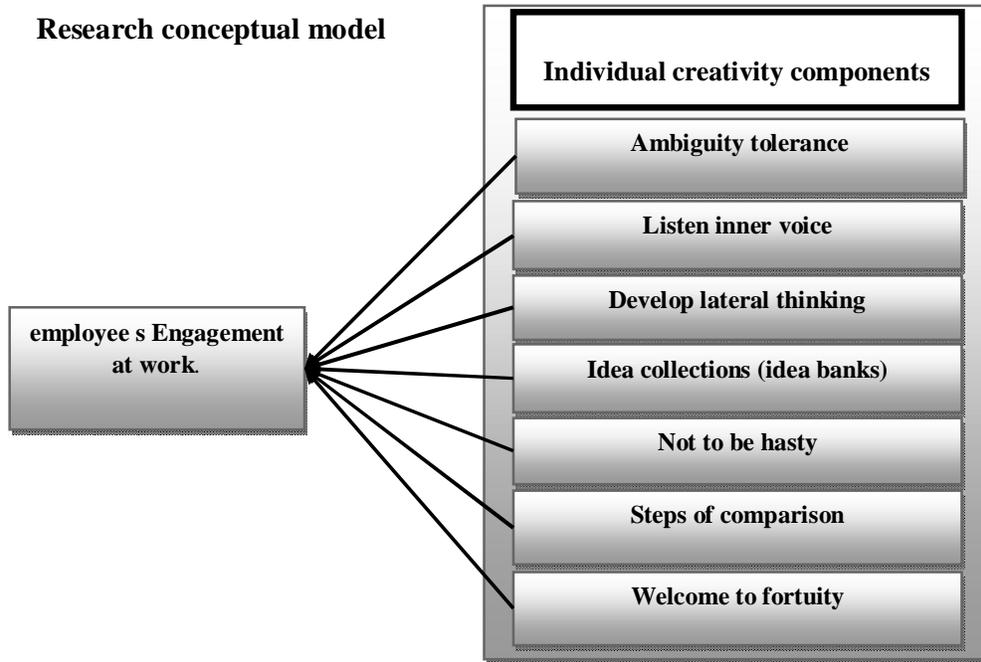
1. Individual creativity components have an effect on employee s Engagement at work.

Secondary hypotheses

- 1.1 tolerance of ambiguity has an effect on employee s Engagement at work.
- 1.2 listening to inner voice has an effect on employee s Engagement at work.
- 1.3 developing lateral thinking has an effect on employee s Engagement at work.
- 1.4 idea collections (bank) have an effect on employee s Engagement at work.
- 1.5 prevent from hasty evaluation of ideas has an effect on employee s Engagement at work.
- 1.6 steps of comparison have an effect on employee s Engagement at work.
- 1.7 Welcome to fortuity has an effect on employee s Engagement at work.

Research methodology

The aim of this study is applied and in terms of data collection method is descriptive. It is a field study from the survey branch among the research methods. First, using descriptive statistics, sample's demographic variables including age, education, etc were studied by SPSS software. Then, relationship between variables was measured through inferential statistics based on Pearson correlation test. Also, multiple linear regressions were used to test hypotheses.



In this research, independent variable is individual creativity which includes seven components as follows: ambiguity tolerance, listen to inner voice, lateral thinking, ideas collection and development, preventing quick evaluation of ideas, steps of comparison, welcome to fortuity and dependent variable is employee s Engagement at work.

Statistical population and sample and sampling method

Research population includes all employees of Agriculture Organization of Qom, so population is limited and Cochran formula is used to determine sample size (Sakkaran, 2002, p. 71). At the time of doing research, the size of population was 275 people which a sample with 160 people was estimated using formula for determining sample size of limited population.

Instrument, data collection and analysis method

In this research, because of repetition in the previous studies, utilized questionnaires are reliable regarding validity (using experts' views) and reliability, however, Pilot study method has been used (on 20 people of population) for more confidence. To assess each variable, based on reliability degree of each instruments in terms of Cronbach alpha, Pilot's result has been shown in table 1.

Variable to measure "engaging in business" from 17 indicators of engaging in work Salanva and colleagues (2002) is used.

Table1. Number of propositions and reliable coefficient of data collection instruments

| questionnaire title | number of items | reliable coefficient according to Cronbach alpha |
|-------------------------------------|------------------------|---|
| components of individual creativity | 22 | 0.87.73 |
| employee s Engagement at work | 17 | 0.86.43 |

Data descriptive analysis

Most participants in this study in Agriculture Organization of Qom were composed of married men with bachelor's level of education; Participants in this study were mostly less than 5 years of experience Most of the work has been contracted to conduct research.

Pearson test

Pearson test is used to examine the relationship between independent variables and dependent variable. Results of this test have been shown in table 5. Note that if there isn't any relationship between independent variables and dependent variable, we will withdraw examining mentioned hypothesis.

Table5. Diagonal matrix of correlation between variables, results of Pearson test

| variables | ambiguity tolerance | listen to inner voice | lateral thinking | idea collection and development | avoid quick evolution of idea | steps of comparison | Welcome to fortuity | individual creativity | employee s Engagement at work |
|---------------------------------|---------------------|-----------------------|------------------|---------------------------------|-------------------------------|---------------------|---------------------|-----------------------|-------------------------------|
| ambiguity tolerance | 1 | | | | | | | | |
| listen to inner voice | 0.302* | 1 | | | | | | | |
| lateral thinking | 0.190* | 0.428** | 1 | | | | | | |
| idea collection and development | 0.287* | 0.158 | 0.253* | 1 | | | | | |
| avoid quick evolution of idea | 0.201* | 0.0248* | 0.356* | 0.332* | 1 | | | | |
| steps of comparison | 0.279* | 0.079 | 0.169 | 0.267* | 0.020 | 1 | | | |
| Welcome to fortuity | 0.226* | 0.208* | 0.428* | 0.347* | 0.274* | 0.130 | 1 | | |
| individual creativity | 0.522* | 0.495** | 0.660* | 0.750* | 0.633* | 0.420* | 0.616* | 1 | |
| employee s Engagement at work | 0.525* | 0.488** | 0.605* | 0.645* | 0.454* | 0.478* | 0.481* | 0.938** | 1 |

**P<.01, *P<.05

As table 5 shows, there is a significant relationship between independent variables and dependent variable. So, research hypotheses can be appraised.

Research hypotheses test and results

Following, research hypotheses are tested using multiple linear regression test method, and at the same time the effect of all independent variables on dependent variables are assessed. Inferential statistics is used to test hypotheses. Results of hypotheses test has been shown in table 6. The effect of all components of independent variables on dependent variable i.e., employee s Engagement at work have been evaluated.

Table6. The summary of multivariable regression analysis coefficients (the effect of individual creativity components of employee s Engagement at work)

| hypothesis title | Std. Error | β | t- statistic | R ² | sig. | result |
|------------------|------------|--------|--------------|----------------|-------|-----------|
| H ₁ | 0.016 | 0.205 | 6.76 | 0.910 | 0.000 | effective |
| H ₂ | 0.015 | 0.265 | 9.40 | | 0.000 | effective |
| H ₃ | 0.020 | 0.211 | 6.63 | | 0.000 | effective |
| H ₄ | 0.018 | 0.313 | 10.41 | | 0.000 | effective |
| H ₅ | 0.017 | 0.193 | 6.77 | | 0.000 | effective |
| H ₆ | 0.013 | 0.0269 | 9.40 | | 0.000 | effective |

| | | | | | | |
|----------------|-------|-------|------|--|-------|-----------|
| H ₇ | 0.013 | 0.266 | 9.60 | | 0.000 | effective |
|----------------|-------|-------|------|--|-------|-----------|

In secondary hypothesis 1, since the value of resulted significant level is lower than $\alpha=0.05$, thus H₀ is rejected in confidence level 95%, that is, "ambiguity tolerance" has an effect on "employee s Engagement at work ". In other research hypotheses also because the value of significance level is lower than $\alpha=0.05$, so, in confidence level 95%, H₀ is rejected and opposite hypothesis is confirmed, i.e. components of individual creativity have an effect on the employee s Engagement at work and with respect to resultant β s, these effects are typically positive.

Table7. Result of main hypothesis testing

| main hypothesis | dependent variable | Std. Error | R ² | β | t-statistic | sig. | result |
|-------------------------------------|-------------------------------|------------|----------------|---------|-------------|-------|-----------|
| components of individual creativity | employee s Engagement at work | 0.029 | 0.880 | 0.938 | 31.86 | 0.000 | effective |

Finally, in significance level = 0.000, main hypothesis is lower than $\alpha=0.05$, therefore, H₀ is rejected in confidence level 95% and opposite hypothesis is accepted. In other words, components of individual creativity have an effect on the employee s Engagement at work. Considering that $\beta=0.938$, so, this effect is positive. Also, determination coefficient (R²) is 0.880 which implies model's high fitness.

Regarding data in table 6, regression equation is described as follows:

$$Y=0.423+ 0.205x_1+0.265x_2+0.211x_3+0.313x_4+0.193x_5+0.269x_6+0.266x_7 \quad (1)$$

Y, employee s Engagement at work; x₁, ambiguity tolerance; x₂, listening to inner voice; x₃, lateral thinking; x₄, ideas collection and development; x₅, avoiding hasty evaluation of ideas; x₆, comparison steps; x₇, welcome to fortuity.

In equation (1) is seen that all research hypotheses are confirmed. So that each of these verified hypotheses, as equal as resulted determination coefficient, has the ability to change dependent variable (employee s Engagement at work) and can affect dependent variable.

Freidman test

This test is used when statistical data are at least ordinal. Through this test, existing variables can be ranked.

Table8. Results of Freidman test for feasibility of individual creativity components

| sample | Chi Square | degree of freedom | sig. | result |
|--------|------------|-------------------|-------|--------------------|
| 140 | 89.43 | 6 | 0.000 | rating is possible |

With respect to table 8, sig= 0.000 and since sig< 0.05, so H₀ is rejected and can be said that individual creativity components don't have same ranks and they can be prioritized. Freidman test is used to rank creativity components. Based on this test, "ambiguity tolerance" has been placed at the first rating and "avoiding quick evaluation of ideas" is in the final rating (seventh). In table 9, results of Freidman test have been shown which indicate the priority of creativity components.

Table9. Results from Freidman test for rating individual creativity components

| individual creativity components | rating mean | priority |
|---|--------------------|-----------------|
| ambiguity tolerance | 4.83 | 1 |
| listen to inner voice | 4.36 | 3 |
| using lateral thinking for finding hypotheses | 4.68 | 2 |
| ideas collection and development | 4.19 | 4 |
| avoiding quick ideas evaluation | 3.19 | 7 |
| comparison steps | 3.33 | 6 |
| welcome to fortuity | 3.42 | 5 |

Conclusion

Literature review is demonstrated that yet considerable research hasn't been carried out about identifying influential factors on employee s Engagement at work which is an urgent need of today's people and organizations. One of main resource of organizations is innovative and creative human resource. Theorists consider human as a development center and believe that the degree of communities' development is depended on the optimum use of their all human's power and resource. In this paper, several types of individual creativity components and its effect on the employee s Engagement at work have been measured. Findings of this research show that each components of individual creativity has a positive and significant effect on the employee s Engagement at work and the effect of each component is different.

Implications based on each of components

According to results of research hypotheses testing, implications are offered for studied organization as follows:

1. Results shown that ambiguity tolerance has an effect on the employee s Engagement at work. Accordingly, employees and managers must raise their tolerance threshold and when they choose a solution for a problem, they most consider other solutions. They don't disregard other options to find merely good option because good idea can be the rival of the best ideas.
2. Results shown that listening to inner voice has an effect on employee s Engagement at work. By developing this ability, creative people will be able to hear incidents which occur in their unconscious ego. Employees and managers are suggested to listen to their inner voice in high risky and uncertain conditions.
3. Research results shown that lateral thinking has an effect on employee s Engagement at work. So, it's suggested that this component is reinforced by effective organizational behaviors (such as brain storming, creative thinking, etc). By challenging primary hypotheses, we must reduce peremptory acceptance traps of an idea.
4. Findings shown that ideas collection has an effect on employee s Engagement at work. Therefore, a set of ideas, information, and concepts which are in our mind can influence creativity and effective scheduling of our employee's daily activities. Employees and managers must be given learning opportunities to obtain knowledge and information (e.g. they have off the job and on the job training) and reinforce their scientific fundamentals by constituting conferences and meetings.
5. Results shown that avoiding quick ideas evaluation has an effect on employee s Engagement at work. So, it is suggested that without having sufficient thoughts and on the basis that this method has worked well in the past, adoption a group of activities and requests can't be a base for future works, situation is constantly

changing and old methods are inevitable defeat. Managers and employees must allow new ideas to breathe.

6. Results shown that steps of comparison have an effect on employee s Engagement at work. One of main methods to improve employee s Engagement at work is fostering managers and employees' comparison steps which think about several options and don't just rely on methods and options which are accustomed to them and day by day follow new ways which its requisite is that they discard their old assumptions and beliefs and/or reengineer them.
7. Results shown that welcoming to fortuity has an effect on employee s Engagement at work. It is interesting to note that how many innovations reflect unexpected events (e.g. glass production process, and the discovery of penicillin). When Edison came to phonograph's idea, he was looking for something else. Then, in the work process, if they treated to a new way, they would quickly take note and remind it, and don't just think about the result.

Research limitations

In doing research activities process often exists barriers, problems and limitations. If the researcher is able to cope with these constraints, results will be obtained with more accuracy and confidence. This study also is no exception. So, this research has been associated with some unwanted limitations which they are briefly mentioned.

1. Since the subjects of this research are humans and complexity of human's essence is such category that doing research about it has its own difficulties. Therefore, we can say that this research regarding that its study area is measurement of creativity components and employee s Engagement at work which both considers as components of human behavior, so, it has been faced with restriction in this respect.
2. One characteristic of public organizations, companies, and institutions' managers is how to use and apply researches across the organization. Thus, they are not willing to do research in their organization and if they show a tendency, research process is so lengthy and bureaucratic that the researcher will regret. This research has also been associated with this limitation.
3. Data collection tool also can be one of the limitations of this study. Questionnaire is used to measure considered variables. Therefore, while both tools are viewed as valid and reliable tools and their reliability coefficient is relatively at high level, still in respect of nature, data collection tool considers as one of the limitations of this study.

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