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## Investigating the Effect of Gamification Mechanisms on the Success of Crowdsourcing Projects in e-Governance: The Case Study: Shahrekord's Citizens Participation in Beautifying the City

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### Extended Abstract

With the progression of information and communication technology, electronic governance and also crowdsourcing as one of its key components have attracted many governments attention. In order to encourage and motivate the citizens to participate in crowdsourcing projects, Game techniques and mechanics have been proposed as an effective solution. However, no significant research has been done in this regard and this subject has not been measured practically. The purpose of this study is investigating the relationship between the intrinsic and extrinsic motivations of citizens and participation in crowdsourcing projects. The statistical population of this research was citizens of Shahrekord and 215 questionnaires were randomly distributed among them. Data analysis was carried out based on Structural Equations Modeling (SEM) by AMOS software. The results showed that there is no meaningful relationship between extrinsic motivations and participation in crowdsourcing projects. On the other hand, a positive and significant relationship was confirmed between intrinsic motivations and participation in crowdsourcing projects.

**Keywords:** crowdsourcing, electronic governance, extrinsic motivation, gamification, intrinsic motivation

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## INTRODUCTION

E-governance systems are of the most common innovations that are used in public administration and increasing citizen participation (Al-Yafi & El-Masri, 2016, 3). Crowdsourcing is as one of the components of electronic governance for the participation of citizens and the online collaboration of all people to provide valuable information to solve the problem (Chris Zhao and Zhu, 2014, 897). Also, gamification as a tool to motivate, engaging enthusiastically, and increasing user activity and participation has become very popular among researchers and executive specialists (Kavaliova et al., 2016, 2). Gamification refers to the use of gaming mechanisms in non-gaming platforms which so far has been used in various fields such as education, health, project management, environment protection, outsourcing, crowdsourcing, and software development (Zeng, Tang, and Wang, 2017, 71). In fact, Gamification is a new approach to the transformation of e-governance services in a personalized and customized form for the mass of citizens (Al-Yafi & El-Masri, 2016, 6).

## PURPOSE

Game techniques and mechanics have been proposed as an effective solution to motivate citizens to participate in crowdsourcing projects. Since no significant research has been done in this regard, the purpose of this study is investigating the relationship between the extrinsic and intrinsic motivations of citizens and participation in crowdsourcing projects.

## METHODOLOGY

This research in term of purpose is practical and in term of data collection method is descriptive-survey and correlation. Structural Equations Modeling (SEM) has been used to test the research hypotheses. 220 questionnaires were randomly distributed among citizens of Shahrekord and finally, 215 useful and complete questionnaires were selected for analysis. In these questionnaires, citizens' opinions were asked about participation in providing ideas and viewpoints through social networks for the beautification of the city. They commented on taking external rewards (getting points like a shopping coupon or an increase in luck in a lottery and cash reward) and internal rewards (having interaction with others, creating the sense of self-confidence, and acquiring idea success for the beautification of the city).

## RESULTS

According to the obtained results, the first hypothesis of the present study, which states "extrinsic motivations have a direct and significant impact on participation in

providing ideas for the beautification of the city”, was rejected. That is, with increasing the extrinsic motivations (in this study, giving cash rewards and points), the rate of participation in crowdsourcing projects (here, participation in providing ideas to beautify the city) will not increase. The results of the study confirm the second hypothesis that “intrinsic motivations have a direct and significant impact on participation in providing ideas for the beautification of the city”. Accordingly, with the increase of intrinsic motivations, the amount of participation in providing ideas is increased.

## DISCUSSION

The obtained results of the first hypothesis are contrary to findings of some research presented in the background because they have confirmed the impact of cash rewards and points that are part of the extrinsic motivations for participation in crowdsourcing projects. The cause of this contradiction may be related to the type of partnership, the type of participants, and the context and culture of the community. On this basis, it should be said that extrinsic motivations always do not guarantee access to success and increasing participation in crowdsourcing projects. On the other hand, the results of the second hypothesis of this study coincide with the findings of many earlier studies. This shows that intrinsic motivations (here interaction, self-confidence, and achievement) contribute to increasing participation in crowdsourcing projects regardless of the type of project and the field of application.

## CONCLUSION

Based on the obtained data and their analysis, it was found that Shahrekord citizens tend to give ideas through social networks for the beautification of the city, but this tendency is not related to extrinsic motivations like getting cash rewards and points for a lottery, instead, intrinsic motivations increase their participation. That is, their goal from participation in providing ideas in social networks was interacting with others, creating a sense of self-confidence, introducing their abilities to others, and selecting their ideas for the city's beautification (achieving success).

## NOVELTY

The results of this research can be available to organizations such as the municipality. Many of the city's problems (in this study, the beautification has been mentioned) can be solved with the participation of people and crowdsourcing. Of course, increasing the participation of the people depends on motivating them. According to the results of this study, intrinsic motivations increase the rate of participation in projects such as beautification and one of the ways to create



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intrinsic motivation is gamification mechanics, including creating a sense of self-confidence and interacting with others.

Since the concept of gamification recently has been raised in Iran and little research has been done on it, no research was found in the field of electronic governance and crowdsourcing and for this reason foreign studies were utilized in this research; This, in turn, caused some problems, such as the fact that carried out studies have been done in different societies and cultures than Iran, consequently, the obtained results of the present study were in contradiction with many of these studies in relation to the first hypothesis. Also, considering that the concept of crowdsourcing was not fully justified by the people, their participation in the completion of the questionnaires was low.



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