

# Survey the Role of Information Technology in Agricultural Development and Rural Women's Entrepreneurship (Case Study of Agricultural Jihad Organization in Kurdistan Province)

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## Abstract

In the current era, the entrepreneurship is in a role of an approach to develop and prosper and the growth of human society and a suitable approach for job creation and income increment in rural areas. The purpose of current study is to survey the role of information in agricultural development and rural women's entrepreneurship. This study is in applied research in the terms of purpose, and in the terms method is considered as a descriptive research and from correlation cluster. The main data collection tool in this research is questionnaire. In this regard, the questionnaire of information technology role in agricultural development was used. The statistic society of this research is the employees of Agricultural Jihad Organization in Kurdistan. For sample selection, Cochran formula was used. In this research, 72 persons were randomly selected as statistic society that it decreased to 60 persons along with the error calculation. The results show that there is a meaningful (or significance) relationship between the information technology role and rural women's entrepreneurship.

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**Index terms**— information technology, agriculture, entrepreneurship, advancement, development.

## 1 I. Introduction

The information technology is an opportunity which we can develop the organization business using it and expand and immediate the services. Therefore, achieving to an acceptable level of information technology for organizations is inevitable. The informational and communicational technologies can be effective in rural people's empowerment and their poverty decrement as well as improving the education level and rural people's literacy can put prospects of sustainable and permanent development of rural people (Imani, 2006, 120). The information and communication technology is called a set of tools which uses for producing, processing, transmitting and storing the information in current era. Also, it's brought about in electronic village definition that: it's the village which the wave of information and communication technology has altered its face and the electronic functions are obvious in rural people's life (Jalali, 2006).

Agriculture is an important sector which majority of the rural population depend on. Smallholders form the bulk of agricultural producers. However, they remain the majority of the food and income poor (IFAD, 2007). Improving smallholder agriculture is therefore chief to poverty alleviation, and information and knowledge are critical to this effort. In the wake of growing demand for food, the sector offers opportunities for producers to sustain and improve their livelihood. Unknown to many, Information and communication technology (ICT) plays an important role in addressing these challenges and uplift the livelihood of the rural poor. The sector is confronted with the challenge of increasing production to feed a growing population in a situation of decreasing availability of natural resources. Of concern are water shortages, declining soil fertility, effects of climate change (Muriithi et al, 2009). Although the information and communication technology can expand agriculture in all countries, based on their studies, the researchers found that lack sufficient expertise to use tools related technology

## 2 II. STATEMENT OF THE PROBLEM

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has made remarkable results achieved in this area not to happen. it has succeeded in creating smart software technology for farmers, which largely eliminates the complexity. The intelligent software includes a database of details about the plants and their growth requirements, control methods and proper use of them in the database, the co-ordinator of the software with the tastes of user (Rigi et al, 2014 The knowledge of environmental science is compiled with information technology (IT) commonly called Environment Information (EI). Environment information is an easy accessible database; people can know both new research scope and impact on environment. Recent ages are depending on information and technology, which helps to fast, comfortable, luxurious life to human beings. People are now able to cover the distance of months in hours with the help of airways, shorter the duration with the help of cars and motor vehicles and can make cook food quickly in microwaves ??Talapatra et al, 2014).

One of the most important goals of contemporary economics is determining the factors that cause economic growth. Traditional neoclassical theory holds that the economic growth of a country is determined by the supplies of both labor and capital the country possesses and the level of technology present in that country ??Michael et al, 2008).

The level of technology in a given society is heavily dependent on the level of knowledge in that society; this paper will regard these two factors as essentially the same. The established neoclassical factors of economic growth are thus the levels of capital and labor present in a given society, the level of knowledge (or technology) present in that society, and the extent to which the government of that society pursues pro-market government policies. However, this model ignores any direct effect that entrepreneurship may have on economic growth (Mehra & Ali Rezaei, 2014). This is the time when competition in economy is depended on the innovation and technological abilities of the young. This needs applying the best management models in systems and developing young skills in human resources. One of the strategies for this is applying entrepreneurship by universities themselves. It needs different governors, planners and masters help to create necessary physical situations in which the economical jobs are planned and the graduated students can be employed. The structure experienced in most countries is the growth center of business and technology. There are different approaches about entrepreneurship definition and the concept of this word needs information of interdisciplinary approaches. Entrepreneurship, according to its identity and different views of experts such as psychologists, is defined as sociology, economy, industry and even history (Ghayazi et al, 2014).

Entrepreneurship process is called "Creativity destruction". In other words the characteristic of entrepreneurship is doing new works and innovating modern ways in daily life. The modern way is just "Creativity destruction". To his view, entrepreneur is a person who has new and modern idea and by a process of starting and creating a business and accepting the risk, introduces new productions and services to the society. Entrepreneurship is never done without certain pre-needs of business management (recognizing opportunities, preparing resources and creating business activities), so its teaching cannot be done without emphasizing on these pre-needs ??Ahmadpoor dariani & Moghimi, 2006).

Entrepreneurship is an ill-defined, multidimensional, concept. The difficulties in defining and measuring the extent of entrepreneurial activities complicate the measurement of their impact on economic performance. ??nderstanding In the current era, the entrepreneurship in the role of an approach to human societies development, prosperity and growth is became an unique alternative that through mobilizes all factors, resources and possibilities of a society spontaneously and by an evolutionary process for meeting the high ideals of community to be the origin of most of positive economic-social effects and consequences. Therefore, as we comprehensively notify the abundance advantageous of this phenomenon, the purposes and Objectives and coordinates of an effective development pattern will be more easily accessible. A subject that should be considered in the regard of entrepreneurship importance and its direct connection with national promotion of a nation is the importance of the role of rural entrepreneurship and entrepreneurs living in rural areas; the matter which along with all its importance is neglected in our society and not appropriately considered (Fazelbeygi and Yavari, 2009). The subject of entrepreneurship is rapidly expanding and women's entrepreneurship is specially notified all around the world. Most of the researchers believe that entrepreneurship activities of women have significant role in nations' economic health. The women could create great evolutions in countries' economic development in the short time entering to the business field. As statistics show the economic activities of women constitute 25 to 35 percent of whole activities of the world (Kantor, 2002).

## 2 II. Statement of the Problem

The environment is an all-embracing concept that is made up of physical, biological and social components. The physical components include the air, housing, weather, water, refuse, sewage, soil, etc. Other physical factors of the environment include chemicals, heat, noise from automobiles and industrial engines, and light. The biological components include plants, pests and animals. While the social components consist of human organizations, cultures, customs and human interaction (Modebelu & Isiwu, 2014).

Mitchell ??2009) reported that the earth's natural resources are interdependent and balanced. However, through human activities, this balance and harmony tend to be upset. Population explosion, lack of concern for the environment, urbanization, poor land use and management, municipal and industrial wastes etc, have resulted in overgrazing, over-fishing, over-hunting, deforestation, bad agricultural practice, all of which have combined to deplete the earth's resources, degrade the environment and cause loss of biodiversity The lives of

most rural people are supplied through agricultural activities in and out of the farms. It's essential for improving the rural developing resources to seek the Sustainable welfare of agricultural farmers and workers without farm. Developing the quality of human capital in villages and in the other words, increasing the power of rural society force means social development. This progress itself is the development of rural economy, because the major part of rural economic is up to the agricultural economic. The farmers receive their required technical suggestions and agricultural inputs from public extension system by creating agricultural extension system. This process still continues but the traditional methods of extension and development have restrictions (Jalali, 2006). The rural people always encounter with education problems such as shortages or lack of educational spaces (or opportunities), distance and commuter dimension and etc. through these technologies, most of educational needs of rural society will be highlighted and met and this process will also lead to the educational gaps decrement and finally help the information gaps decrement."The communicational technologies lead to the viewpoint and attitude alteration of social organizations and leisure time activities patterns (Henson & Narola, 2000).

Although entrepreneurship isn't the only approach of job creation and rural people's income increment, but definitely is the best and most productive of its kind. The economists know this matter as the most important factor in village economic development and politicians also know it as a key approach for preventing the villages' riots and disturbances (Klagher & Aghaei, 2014).

According to the available resources and opportunities in rural environments (Potential and actual, as well as software and hardware), this environments guide the development purposes and especially economic development in communities. In the direction of processes and regarding to these environments, an organized linkage has been created among the rural development purposes and entrepreneurship development so that form from the suitable combination of these factors, rural entrepreneurship behaviors in the economic development direction (Rokn-al-din Eftekhari & SajasiGheydari, 2010).

According to the above mentioned contents, it can be declared that the current research is trying to answer this question that "Is there a relationship between information technology and agricultural development and rural people's entrepreneurship?"

### III. The Importance and Essentiality

In the regard of this research importance and essentiality, it can be illustrated that women are the first hope for their own countries' growth and development in developing countries, especially in rural areas. Nowadays, countries and international organizations have reached this conclusion that entrepreneurship development of women has a direct and positive effect in most of countries various activities. In the one hand, leads to the economic development and job creation opportunities and in the other hands, leads to the social, cultural and health situation improvement of women and their families (Glerd, 2005). Along to the increment in conscious level and academic educations, the position and place of women in families and communities especially local and rural communities have been altered, but still the lack of gender balance and inequalities in supply and labor market rooted in the norms, attitudes and social structures of family and country and remains. Despite this fact, the desire to entrepreneurs and farmers is a strong desire among women so that nowadays, women business owners play an important role in the health of the economy and villages and in this regard, the innovative trainings in the field of information technology can significantly help the villagers' entrepreneurship development.

In the field of information technology and agricultural development and rural entrepreneurship role, expanded studies were conducted which are referred to following cases: women's entrepreneurship development in rural regions requires a set of suitable fields such as attitude changing toward the women presence in the workplace, promote social and economic potential of rural women to own and drawing up appropriate laws and regulations. He also emphasized on the role of rural entrepreneurship in permanent development.

### IV. Research Objectives

According to the subject, the current research is trying to achieve to the following objectives: ? Explore the ability of individual farmers and entrepreneurs in rural women. ? Identify the fields of diversifying the agricultural activities and entrepreneurship development for rural women. ? Identify the potential rural women's entrepreneurs in information technology and its relationship with entrepreneurship.

a) Questions i. Primary Question ? How much is there relationship between information technology and agricultural development and villagers' entrepreneurship.

ii. Secondary Questions ? How much is there relationship between the level of education and use of technology in agricultural development and entrepreneurship? ? How much is there relationship between the skill of using possibilities and agricultural development and entrepreneurship? ? How much is there relationship between information technology tools and agricultural development and entrepreneurship?

### b) Assumptions i. Primary Assumption

? There is relationship between information technology and agricultural development and villagers' entrepreneurship.

## 6 ii. Secondary Assumptions

? There is relationship between the level of education and use of technology in agricultural development and entrepreneurship. ? There is relationship between the skill of using possibilities and agricultural development and entrepreneurship. ? There is relationship between information technology tools and agricultural development and entrepreneurship.

## 7 V. Methodology

The methodology is a way to profoundly achieve to the methodical knowledge for theorizing or the purpose of methodology is used techniques and methods to collect and analyze the data ??Bliki, 2008, 22). The used research method is progressive analyticdescriptive theses that for analyzing the results and assumption tests, the statistic method with correlation tests were used.

## 8 a) Statistic Society

The statistic society of current research is employees Agricultural Jihad Organization of Kurdistan that have activity in the regard of entrepreneurial development and promotion and they are 72 persons which their amount decreased to 60 persons with sample size calculation by Cochran formula.

## 9 b) Information collection data

The main data collection tool in this research is questionnaire. In this regard, the questionnaire of information technology role in rural women's entrepreneurship was used. The utilized spectrum in questionnaire was like rt spectrum and questions are designed in 5 options. The questions spectrum was completed to survey the approaches of women's entrepreneurship development from very high to very low. In order to survey the statistical data of current research, at first, the information obtained from questionnaires were extracted and analyzed. For assumption analysis of the study, Pearson correlation test was used. This research was conducted in the Agricultural Jihad Organization of Kurdistan province. This study is cross-sectional which the data collection and distribution of second half of 2016and data analysis was done in first of 2017.The subject of current research is to survey the role of information technology in development of rural women entrepreneurship. ii. Assumption H 1 : There is relationship between information technology and rural women's entrepreneurship development.

## 10 VI. Results

In the regard of research main assumption, the results of Pearson correlation coefficient are shown in table (1). According to the table, the correlation coefficient in the level of  $P < 0.05$  is  $r=0.757$  which this coefficient is meaningful (or significant) in the terms of statistics. So regarding to the (sig=0.000) in the Pearson test, the assumption H 0 is not confirmed and assumption H 1 is confirmed; means there is relationship between variables. ii. Assumption H 1 : There is relationship between the level of education and use of technology in and rural women's entrepreneurship development.

In the regard of research main assumption, the results of Pearson correlation coefficient are shown in table (2). According to the table, the correlation coefficient in the level of  $P < 0.05$  is  $r=0.324$  which this coefficient is meaningful (or significant) in the terms of statistics. So regarding to the (sig=0.012) in the Pearson test, the assumption H 0 is not confirmed and assumption H 1 is confirmed; means there is relationship between variables. ii. Assumption H 1 : There is relationship between the skill of using possibilities and rural women's entrepreneurship development.

In the regard of research main assumption, the results of Pearson correlation coefficient are shown in table (3). According to the table, the correlation coefficient in the level of  $P < 0.05$  is  $r=0.403$  which this coefficient is meaningful (or significant) in the terms of statistics. So regarding to the (sig=0.012) in the Pearson test, the assumption H 0 is not confirmed and assumption H 1 is confirmed; means there is relationship between variables. ii. Assumption H 1 : There is relationship between information technology tools and rural women's entrepreneurship development.

In the regard of research main assumption, the results of Pearson correlation coefficient are shown in table (3). According to the table, the correlation coefficient in the level of  $P < 0.05$  is  $r=0.452$  which this coefficient is meaningful (or significant) in the terms of statistics. So regarding to the (sig=0.000) in the Pearson test, the assumption H 0 is not confirmed and assumption H 1 is confirmed; means there is relationship between variables.

## 11 VII. Conclusion

The purpose of this research was to considered information technology as a functional method to develop the entrepreneurship. According to the research results and survey the relationship between research variables, we found out that there is meaningful relationship between information technology and entrepreneurship development. Nowadays, along with the created changes and evolutions in the concept of rural development, the rural development has been considered as a multi-dimensional process that its final purpose is to increase the sexual justice of rural areas residents. In order to achieve this matter, nowadays the Facilitation of rural entrepreneurship process and rural women in particular can be known as an effective strategy. So that it can

be asserted that according to the assumption of research and relationship between information technology and entrepreneurship development is  $\text{sig}=0.000$  and for the relationship between education level and entrepreneurship development is  $\text{sig}=0.012$  which is the highest and lowest level of relationship, respectively. According to the research of Asadiand Hasheminejad (2011), using information and communication technology regarding to its role in providing the on time information for quick decision-making of people, information exchanges, quick accessing to the scientific resources and updated low-cost information is increasingly notified and can be compatible with primary assumption of the research which introduced the role of information technology in According to the research of Mohediand YaghubiFarani (2012), one of the major and significant important purposes and objectives in rural women's entrepreneurship development is developing and improving the entrepreneurship culture in rural communities and especially rural women community and also notifying their special skills and education level in activities and it's compatible with the first and second secondary assumptions. Actually, from the results of current research, the positive conclusion can be concluded in the field of information technology on agricultural and entrepreneurship development and measured the level of education and suitable tools in agricultural and entrepreneurship development and the level of their relationships. <sup>1 2 3 4</sup>

1

technology and entrepreneurship development

Variables	Number	The amount of r Pearson	Sig
Information technology Entrepreneurship development in rural women	60	0.757	0.000
a) Primary Assumption			
i. Assumption H 0 : There isn't relationship between information technology and rural women's entrepreneurship development.			

Figure 1: Table 1 :

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**2**

education and use of technology in  
entrepreneurship development  
Variables

Level of  
education Entrepreneurship  
development

b) First secondary assumption

i. Assumption H 0 : There isn't relationship between  
the level of education and use of technology in  
rural women's entrepreneurship development.

Num	The amount of r	Sig
60	0.324**	0.012

Figure 2: Table 2 :

**3**

possibilities in entrepreneurship development  
Variables

Skills of using  
possibilities Entrepreneurship  
development

c) Second secondary assumption

i. Assumption H 0 : There isn't relationship between  
the skill of using possibilities and rural women's  
entrepreneurship development.

Num	The amount of r	Sig
60	0.403**	0.001

Figure 3: Table 3 :

4

technology tools in entrepreneurship development  
Variables

Information

technology tools Entrepreneurship  
development

i. Assumption H 0 : There isn't relationship between  
information technology tools and rural women's  
entrepreneurship development.

Number	The amount of Pearson	Sig
60	0.452**	0.000

Figure 4: Table 4 :





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