



# Factors affecting behavioral intention to use information and communication technology (Case study: Farmers in Behbahan, Iran)

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## ABSTRACT

The importance of the application of information technology to agricultural success is obvious, but there is still a long way to go. In order for the application of information technology to be applied and operationalized in the agricultural sector, it is necessary to identify the specific factors and the relationships between them. Therefore, the present study was conducted to determine the factors affecting behavioral intention to use ICT. This study is an applied approach among farmers in Behbahan city of Iran and from the perspective of the data collection method is a descriptive-survey study. The staticrical population of this study consists of 8000 farmers in behbahan. Based on the Krejcie-Morgan table, 367 individuals were selected. Simple random sampling method was used for sampling. In this study, a questionnaire was used to collect basic data. The content and construct validity of the questionnaire were reported and its reliability was confirmed by Cronbach alpha. Inferential statistical methods used include normality test, randomness test, confirmatory factor analysis, and structural equation modeling. Data were analyzed using SPSS and LISREL statistical software. The results of this analysis showed that performance expectation, effort expectation, social impact, facilitation, personal innovation, and trust had significant positive impacts on farmers' behavioral intention for ICT.

**Keywords:** Information technology and communication, Technology adoption model, Performance expectation, Social impact, Effort expectation, Agricultural sector

## INTRODUCTION

Over the past few years, due to the increasing incidence of man-made and natural disasters, humanitarian organizations have attracted a lot of attention (Burkart et al., 2017). As a result, humanitarian organizations often participate in all stages of crisis management, ie reduction, prevention, response, and reconstruction. In particular, during the response, several humanitarian organizations cooperate in coordination with other organizations, such as the military, the host government, and local charities Kavacs and Spence, (2007). This forms a humanitarian supply chain(HSC) and often includes organizations that work together to respond to major disasters (Akhtar et al., 2012). The increase in catastrophic events such as the December 2005 tsunami, Hurricane Katrina, and the 2015 earthquake in

Nepal highlights the need for researchers and professionals to develop better solutions to disasters and management systems. Contemporary studies in HSCM supply chain management mainly focus on improving coordination and collaboration, development of optimization models for asset management (Caunhye et al., 2012) and the analysis of low IT applications (Chan et al., 2004; Corporation, 2011; Cabra and Ramesh 2015; Myers et al., 2005).

In today's world, information technology has made the possibility of usefulness and efficiency of information possible and is recognized as one of the most important tools for participation in the global market. Studies and research show that there is a positive two-way relationship between investment in institutional information technology and human resource productivity. One of the major consequences of

IT is decentralization as well as centralism. This means that work can be done remotely without the need to have a physical and continuous presence in the place, which emphasizes the shortening of time and space as a cloud highway (Mohammadi et al., 2016).

To succeed in using information technology in the workplace, a positive attitude of the person (end user) is considered a prerequisite. However, the intention to use or adopt information technology varies among users (Kim et al., 2009). Hence, personal innovation (employee innovation), ie the desire to use new information technology, is an important factor in examining the acceptance of information technology.

Up-to-date information as the most effective decision-making and planning tool can play an important role in laying the foundations for the optimal use of human and non-human resources and help the country to achieve the desired goals in agriculture. On the other hand, increasing the level of awareness, knowledge, and abilities of farmers and agricultural operators will increase the quantity and quality of agricultural products. This, in addition to improving the living standards of the villagers and reducing the gap between urban and rural life, eliminates the need for our country to import agricultural and livestock products. Considering the use of information technology in accelerating the progress of the country, knowledge of the capabilities and application of information technology in the agricultural sector can lead to further development of the agricultural sector (Molei et al., 2012).

The main and most important part of the technologies in agriculture and rural development is focusing on the empowerment of the stakeholders. Including empower in performance and efficiency production area (economic empowerment), increasing participation, access and presence in communities (social empowerment), and access to welfare and health facilities. Information technology reduces opportunity costs and contributes to economic productivity and efficiency in production and services by creating added value and reducing production, sales, and marketing costs. Accordingly, the purpose of this study is to investigate the factors affecting the behavioral intention to use and use information and communication technology among farmers in Behbahan city, Iran.

### Theoretical Foundations

In the third millennium AD, information is considered as the main pillar of civilization, man has gone through three main stages in the path of his civilization, each of which represents the power of civilization in that period. In a period of vast agricultural lands and then factories and industries and now information and technology related to it is one of the most basic foundations of civilization in the third millennium. The invention of the computer in the middle of the twentieth century, the expansion of communication networks, and the importance of information in social life, have been the source

of new developments in human life. Today, information technology has pushed the boundaries and created a special world with special facilities and capabilities, so that one of the most important issues for all organizations in the world is the proper use of this phenomenon. All economic and non-economic organizations and companies have become aware of the usefulness and necessity of using information technology (Bazrafshan et al., 2018).

The definition of information technology is very broad and everyone has a different definition. The best way to define such a broad topic is to present related concepts and ideas. The term information technology was first used by Bahat to describe the role of the computer in supporting decision-making and information processing in the organization. Information technology refers to the technologies that provide the necessary facilities for the collection, accumulation, processing, and distribution of information, the focus of this technology is computers and telecommunications. In general, any equipment, system, or subsystem of equipment that is automatically used to access, store, manipulate, manage, control, display, modify, exchange, or receive data or information by executive agencies. What is used is information technology (Khadivar et al., 2017).

Information technology (IT), as defined by the American Information Technology Association, studies, designs, develops, implements, supports, or manages computer-based information systems, in particular computer software and hardware applications. In short, information technology deals with issues such as the use of computers and software to convert, store, protect, process, transmit, and retrieve information in a secure manner. Recently, a slight change has been made to this term so that the term clearly includes the scope of telecommunications. Therefore, more and more people want to use the term "information and communication technology" or ICT for short (Karba et al., 2016).

Many integrate the concept of information technology with computers and informatics, while these are information technology tools, not all that information technology has to offer (Hall et al., 2018). Since information technology is considered as the axis of development of societies and organizations, so the design of its structure requires deep thinking and reflection, along with providing a suitable model and reviewing the existing models in domestic and foreign organizations. The use of information technology in organizations promises fundamental changes in all areas. Just as the world today cannot be considered without the electricity industry, the world today cannot be imagined without information and communication technology Sajjadi (2015).

Today, information technology has taken over other management information systems such as CIS, MIS, DSS AI, EIS, OA, etc., thus enabling the information center located in the center to increase its control over the regions and perform centralized operations. Information technology is one of the most important tools to participate in the global

market. One of the basic features of the present age is information and its transformation into knowledge. Such a feature will have a great impact on the social and economic institutions of societies. Social institutions must be rebuilt and restructured accordingly. In the present age, the factor of economic growth of capital is not manpower and raw materials, but new knowledge and ideas cause economic prosperity and the capital of countries is a function of science and ideas (Abtahi and Bahmanipour (2017)).

Studies in this field show that information technology should be discussed in two areas of research and implementation in organizations. The research department is responsible for simulating the environment, virtual experience, and low-cost hypotheses, along with planning, decision models, and creating creativity in employees. In discussing the implementation of information technology in the organization, there are two basic and necessary views that the management of the organization and IT managers should pay attention to: technical and engineering view and management view (Bloom et al., 2014).

ICT can be effective in the agricultural sector in a variety of ways as it can cover disadvantaged and inaccessible people (smallholder farmers, rural communities, and urban suburbs) in almost all countries, both developed and underdeveloped. Despite the many efforts that have been made in recent years to disseminate and transfer agricultural knowledge to its users, a large amount of knowledge and information is still out of reach of many people and they have not been able to use the information. Because information alone is not useful unless a specific part of it is organized and used through the relationship between producers and consumers (Choobchian (2017)).

Due to the imbalance in crop yields among sample farmers, it is possible to apply technical recommendations and agricultural technologies to a larger number of farmers by providing technical information to all agricultural operators. The most important aspects of this information are: better and more efficient technical, technical and production information for farm work (exploitation unit), information on risk factors (risk), reduction of production and waste, climatic and climatic information (climate, weather). ICT can also be made by linking agriculture to markets, improve economic activities, out-of-reach people, and boost business in underdeveloped rural areas. In general, it can be said that ICT has a fruitful role for progress by increasing the ability of individuals and increasing access to information and their ability and selection (Bandar (2016)).

Global experience shows that ICT has been able to have a significant impact on all areas of social, economic, cultural, and political life. Because of this impact, the world today is rapidly becoming an information society in which knowledge-based and access to and useful use of knowledge play little role in sustainable development. According to the FAO report

in 1993, ICT can contribute to the development of sustainable agriculture. Presentation of products and services, all and all of them, presentation of weather conditions, presentation of product prices and inputs for production and sales planning (Doyen et al., 2012).

Information technology is considered as one of the most important axes of development in the world and many countries in the world have made information technology development one of the most important infrastructures for their development. This technology can offer many abilities and capabilities to agricultural communities and is expected to be useful and effective in solving problems in the agricultural sector. Information technology in agriculture and rural development contributes to the effectiveness of other sources of production and development. It is also considered as a factor in improving production efficiency (Schernimacher and Burger (2017)).

One of the most obvious types of information is useful in agricultural development, market information and prices. Prices are one of the most important drivers of agricultural production, and the significant difference between the prices of products on the farm and in the consumer market can be reduced to a favorable level through timely information on prices, supply, demand, and market elasticity. Communication and information technologies can improve the far-reaching activities of far-reaching people by connecting farmers to markets. Prices of farm inputs (such as fertilizers, pesticides, and seeds) as well as prices of machinery, tools, and equipment, as well as standards, quantity and quality of products, export and import laws, and the like are important information that should be made available to consumers (Elad et al., 2014).

ICT has many applications in rural and agricultural fields. For example, in the field of sowing, the type of seed, yield, and water requirement of the product, in the field of harvesting, various pesticides and fertilizers and their positive and negative effects, and in the field of harvesting, new technologies and machines can be mentioned. In a more important discussion, it can be mentioned that ICT can be quite useful in marketing and selling products because, in the sale of products worldwide, with the help of ICT, the tastes of buyers can be realized and a product suitable for their tastes can be produced (Tarvardi (2009)).

Information and communication technology has infiltrated various aspects of agriculture, examples of which are mentioned here: precision agriculture, crisis management in rural development, awareness of floods and precipitation and the occurrence of storms, and climate change. Moisture, awareness of market conditions, increase or decrease in product prices, and saturation or famine of a product and planning accordingly. ICT can also be used to educate before and after a crisis and reduce the effects of a crisis. At the same time, with the help of this system in the field

of sustainable agriculture, the number of pesticides and fertilizers consumed can be used appropriately and serve the environment Azmi and Ghadiri Masoom (2008).

Performance expectation is defined as the degree to which a person believes that using the system will help them achieve job performance (Venkatch et al., 2003). Humanitarian organizations are responding to the adverse conditions of major disaster challenges that must be managed to reduce the adverse effects on the performance environment of relief operations Cheney (Dargans et al., 2016).

This argument is based on the premise that the use of information technology improves coordination between organizations and, as a result, improves the performance of relief operations. Likewise, information technology plays an important role in crisis management and maintaining its impact. Therefore, the positive attitude of workers towards the use of information technology in improving performance can encourage them to accept it.

The level of convenience or effort associated with the use of information technology is often the most important element that influences the behavioral intent of the use of information technology. The expectation of effort is defined as the 'degree of ease associated with the use of information technology in the supply chain'. Social impact is defined as the degree to which one understands the importance of others' beliefs in using the new system (Vankatesh et al., 2003). Numerous studies show that a person uses information technology when an important person (such as family and friends) approves of his use of information technology Chawley (2016).

Conditional facilitation is defined as the degree to which an individual believes that organizational and technical infrastructure exists to support the use of the system Vankatesh (2003). In fact, using IT requires special skills, resources, infrastructure, and so on. Therefore, end users can be more motivated to adopt information technology if they have access to technical expertise, training, and a higher level of organizational support than using information technology. Theoretically, the role of facilitating the situation has been supported in some studies (Akhtar et al., 2012).

Innovation is very important in explaining the user's intention to use a new product (Afzali and Ahmad, 2016; (Lee et al., 2015). However, many authors have suggested two levels of innovation, namely general innovation and innovation in a specific field. Studies on technology acceptance consider employee innovation as a specific area variable. Thus, employee innovation is defined as "the individual's willingness to try out any new information technology. Roger (1995) found that anyone with a high degree of innovation can perform better in any situation of uncertainty. Besides, more creative people are likely to face more challenges and are more likely to build trust in technology and they tend to build more trust in technology.

Koffris and Hampton Souza (2004) believe that trust in technology plays an important role in behavioral intent and acceptance of information technology. End users feel uncomfortable because of the IT feature of not being able to see the background process. This may increase the risk and uncertainty associated with the use of information technology. Trust can play a vital role in reducing this uncertainty and risk associated with the use of information technology Lane (2011).

## Research Background

(Wong et al., 2020) In a study entitled "Blockchain in Transport and Logistics unearthing the determinants of Blockchain adoption in supply chain management" Found that; revealed that FC, TR, and TA have a positive influence on intention to use BCSCM and regulatory support moderates the effect of FC. This study offers valuable insights into the applicability of Blockchain technology for the supply chain management.

(Kabra et al., 2017) in a study entitled Understanding behavioral intention to use information technology: Insights from humanitarian practitioners. The structural equation modeling results show that out of four constructs namely performance expectancy, effort expectancy, social influence, and facilitating conditions under UTAUT performance expectancy and effort expectancy significantly affect the IT adoption. Contrary to expectations, trust and personal innovation do not affect the behavioral intention. Also, personal innovation does not moderate the relationship between performance expectancy and effort expectancy. This underlines the need to foster a learning culture within these organizations. The efforts made by involved humanitarian organizations may be directed towards improving the level of education, skills and facilitating them with other resources such as appropriate IT and data mining training so that the technology adoption becomes an integral part of their daily activities. Finally, detailed implications for humanitarian organizations are discussed.

(Hudson et al., 2017) reviewed an article entitled Using Information and Radio and Communication Technology to Improve Food Security among Small Farmers in Sub-Saharan Africa. The results show that information and communication technology strengthens the food security of smallholder farmers and increases the potential of farmers' participatory approach in SSA. Broadcast and introduces radio as an important tool for achieving rural development.

(Monica et al., 2015) reviewed an article entitled ICT as a Key Strategy for Supply Chain Management in SMEs. The results showed that the use of communication and information technology facilitates the management of information resources (materials) and prevents delays. This not only reduces costs but also increases customer satisfaction, thus enhancing the overall competitiveness of the organization.

Shahid al-Zaman and Alam (2014) reviewed an article entitled

The Long-Term Impact of Information and Communication Technology on Economic Production: Australia. This paper discusses the integration of causal links between ICT and economic output in Australia using data for nearly five decades. The results of the study point to the integration of capital between ICT and capital, and suggest that ICT capitalists drive economic production and multi-factor productivity, just as non-ICT capital does.

(Elad et al., 2012) in a study aimed at investigating the role of information and communication technology in agricultural development concluded that information technology infrastructure and management factors have a significant role in the development of agricultural infrastructure. So that with proper and efficient management in agriculture and related sustainable development, they have been able to increase food security efficiency. In this study, suggestions for the effective application of information technology in the agricultural sector are presented.

(Gu et al., 2009). In a study entitled "Determinants of behavioral intention to mobile provided a strong support for the validity of the proposed model with 72.2% of the variance in behavioral intention to mobile banking. This study found that self-

efficiency was the strongest antecedent of perceived ease-of-use, which directly and indirectly affected behavioral intention through perceived usefulness in mobile banking. Structural assurances are the strongest antecedent of trust, which could increase the behavioral intention of mobile banking. This research verified the effect of perceived usefulness, trust, and perceived ease-of-use on behavioral intention in mobile banking. Bandopadhi and Frascastro (2007) conducted a study on the impact of culture on information technology adoption in India; the results of their research showed that social influence along with performance prediction and effort prediction in the theory of (Vankatesh et al., 2003) have a significant effect on cultural variables.

Zakour (2004) conducted a study entitled Cultural Differences and Information Technology Acceptance. The results of his research showed that cultural differences have a significant impact on the acceptance of information technology and according to cultural differences, the factors affecting the acceptance of information technology are different.

(Goa et al., 2018) reviewed an article entitled Sustainability Communication Assessment and ICT. The results show that information and communication technology and human development have major and interactive effects on environmental sustainability.

Maleki (2011) in an article entitled Status and Comparative Study of Rural ICT in Iran (Case Study: Villages of Khuzestan Province of Iran) has concluded that with the introduction of information and communication technology in rural areas, traditional and inefficient agricultural methods and Animal husbandry has given way to effective and modern methods.

Hooman Farahani (2014) reviewed an article entitled Information and Communication Technology and Mobile Phones Used to Share Agricultural Knowledge by Farmers in West Azerbaijan of Iran. The results showed that almost 98% of farmers in West Azerbaijan use mobile phones as a source of agricultural information. Also, it was found that there were differences between training groups and between farmers, cattle, and livestock counterparts regarding the use of mobile phones.

(Alipour et al., 2016) reviewed an article entitled The Impact of Culture on Behavioral Intention to Use Information Technology. The results showed that culture affects the behavioral intention of using information technology, and the simultaneous prediction of behavioral intention to use information technology through cultural indicators, power distance and constraint indicators were excluded from the model because they were not able to predict the standard variable, ie acceptance of information technology.

Soleimani (2015) an article entitled "Study of farmers 'and experts' views on the role of information technology in increasing agricultural production: a case study of Miyaneh city of Iran". The results of regression analysis showed that the variables predicting the amount of information technology use, Internet e-mail skills, literacy level, marital status, land amount, computer use and having a mobile phone remained in the regression equation and these variables together explain 34% of the changes in the use of information and communication technology.

(Tahernejad et al., 2014) reviewed an article entitled The Role of Information Technology in Empowering the Employees of the Agricultural Jihad Organization of Kohgiluyeh and Boyer-Ahmad Provinces of Iran. The results show that the use of information and communication technologies in the Kohgiluyeh and Boyer-Ahmad Agricultural Jihad Organization can explain the changes in the capabilities of its employees by 20%.

Moradi Sarab (2015) reviewed an article entitled The Impact of New Information Technologies on Sustainable Agricultural Development. The results of studies show that the modernization of information and information technologies, intensify the distance from traditional agricultural activities and natural resources and provide a more accurate agricultural route. Also, to develop information technology in the role of preserving and transmitting indigenous knowledge, more investment should be made in infrastructure, including telecommunications, the Internet, and computers.

Mardanshahi (2017) in an article examined the factors affecting the development of information and communication technology in agricultural knowledge-based businesses (Case study: Tabarestan Technology Units Growth Center). The results show that the infrastructure factor as the most important component in the development of information and communication technology and computer and the Internet as the most important infrastructure factor, play a key role in

the development of businesses, especially knowledge-based businesses.

(Salimi et al., 2015) reviewed an article entitled Factors Affecting the Adoption and Application of Information Technology in Agriculture. In this study, reviewing previous research, four components of efficiency, ease of use, reliability, and usefulness were identified as factors affecting the adoption and application of information technology in agriculture.

**Conceptual Model and Hypothesis Development**

To achieve the objectives of this study, the UTAUT model was developed through the integration of personal innovation and behavioral intent to adopt technology, as shown in Figure 1. In particular, this study describes the relationships between the seven structures, namely performance expectation, effort expectation, social impact, facilitation conditions, personal innovation (staff innovation), especially in the field of information technology, trust in technology, and behavioral intention of IT acceptance.

H1.The performance expectancy (PE) of users positively affects the behavioral intention to use IT.

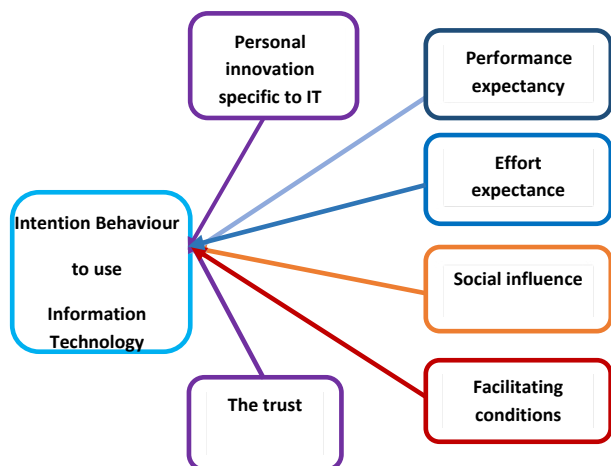
H2. The effort expectancy of users positively affects the behavioural intention to use IT.

H 3. Social influence (SI) has a positive effect on the behavioral intention to use IT.

H4. facilitating conditions (FS) have a positive effect on the behavioral intention to use IT.

H5. Personal innovation (PI) has a positive effect on the behavioral intention to use IT.

H6. Trust (T) in technology has a positive effect on the behavioral intention to use IT.



**Figure 1:** Conceptual model of research (Karba et al.,2017)

**MATERIALS AND METHODS**

The present study is a cross-sectional survey based on the

purpose of applied research and in terms of the descriptive nature of correlation and based on data collection. The statistical population of the study includes farmers of Behbahan city in the number of 8000 people. Based on Krejcie Morgan’s table, the number of 367 people was selected as the sample size. Stratified random sampling method was used to select the sample members. The data collection tool was a questionnaire that includes 7 dimensions and 27 items. The dimensions of the questionnaire are: (performance expectation) (taken from (Lal Mahmoud et al., 2017), (Vankatesh et al., 2003), expectation of effort (taken from Armida (2008), (Vankatesh et al., 2003), Social Impact Derived from Gao and Bai (2014), (Vankatesh et al., 2003), Armida (2008), (Venkatesh et al., 2003) Facilitating the situations adapted from Armida (2008), (Vankatesh et al., 2003), Personal Innovation from Agarwal and Prasad (1998), (Yi et al., 2006), Behavioral Intention is derived from Gao and Bai (2014), (Vankatesh et al., 2003), Technology Trust is derived from Armida (2008), Emad (2014), Gao and Bai (2014), (Gao et al., 2011). To assess the validity of the research from the panel of experts as well as the confirmatory factor analysis test and Cronbach’s alpha method was used to evaluate the reliability of the research measurement tool. The results are given in Table 1.

Cronbach's alpha	Number of questions	Dimensions
0.762	5	Expect performance
0.718	5	Waiting for the effort
0.711	5	Social impact
0.719	5	Facilitate the situation
0.781	5	Behavioral intention
0.896	5	Personal innovation
0.872	5	the trust
0.76		The whole questionnaire

**Table1:** SPSS software output for calculating Cronbach’s alpha

Statistical methods used for data analysis include descriptive statistical methods (frequency distribution tables and mean and view) and inferential statistical methods (normality test, randomness test, confirmatory factor analysis, and structural equation modeling). Also, the obtained data were analyzed using SPSS and LISREL statistical software.

**Research Findings**

Confirmatory factor analysis: Confirmatory factor analysis was used to ensure the validity of the research questionnaire.

In this method, which is performed with LISREL software, it will be determined that the questions of the questionnaire have a sufficient correlation with the desired dimensions. Factor load indicates the strength of the relationships of items with the desired factor and is acceptable if it is more than 0.3. T-statistic also measures the significance of relationships and should be greater than 1.96.

The good values of fitting the conceptual model of the research are as follows:

$$\chi^2/df = \frac{960.97}{539} = 1.78; RMSEA = 0.033; SRMR = 0.036; GFI = 0.95; NFI = 0.95; TLI = 0.92$$

The normal chi-square index is 1.78, the RMSEA index is 0.033 and the SRMR is 0.036, which indicates that the model fits Figures 2 and 3.

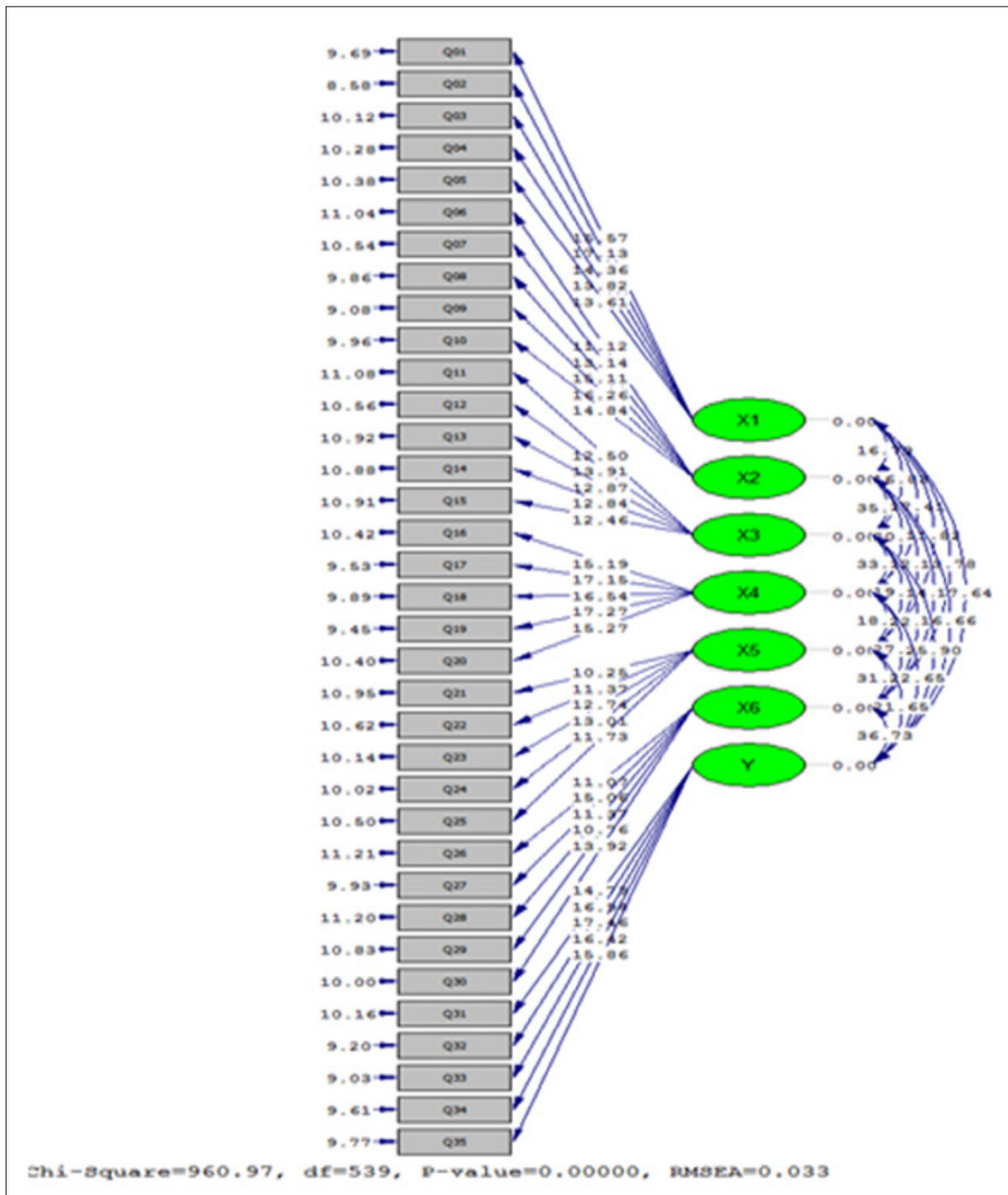


Figure 2: Confirmatory factor analysis of the research questionnaire

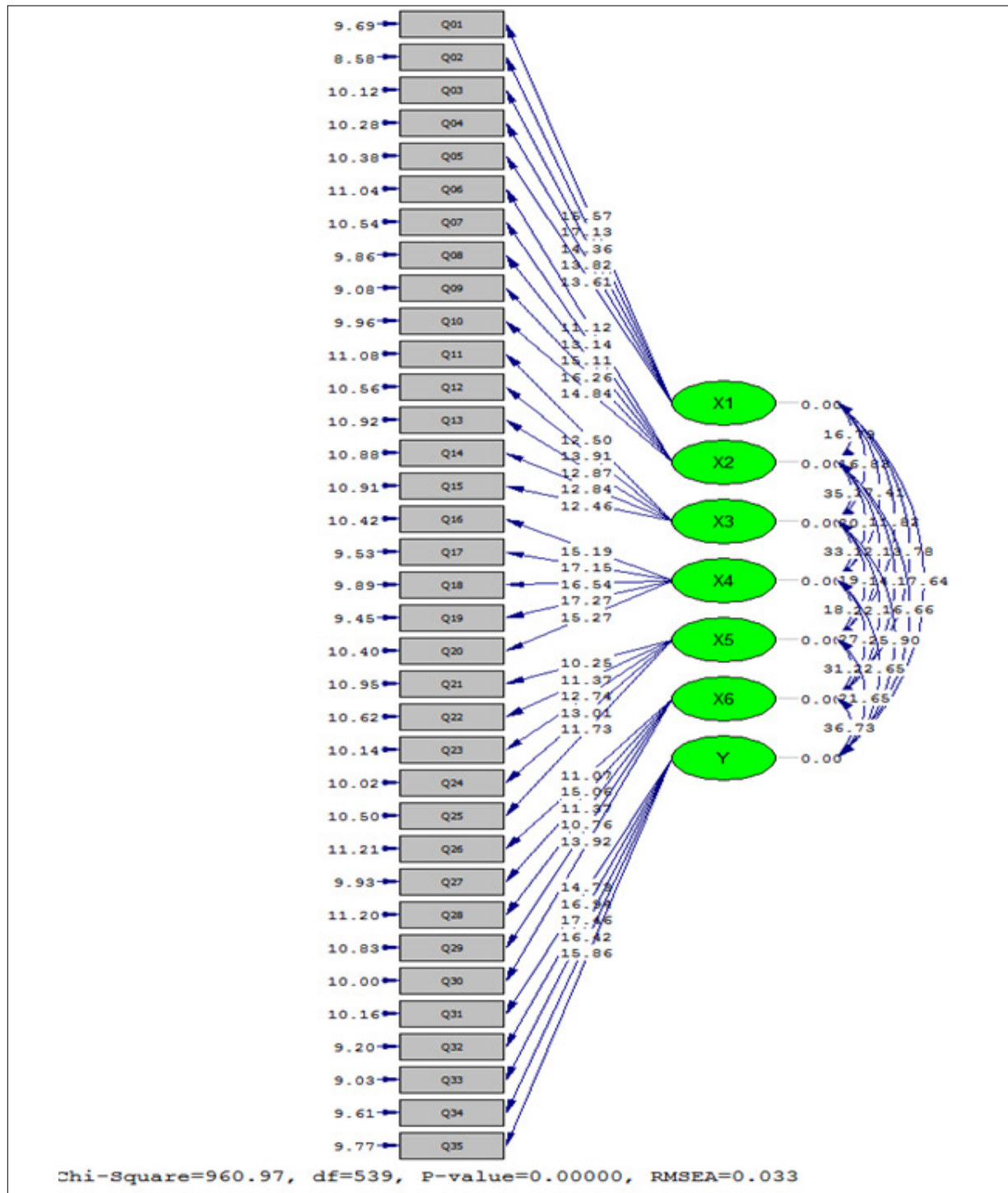


Figure 3: Significance of confirmatory factor analysis of the research questionnaire

Test of research hypotheses: Structural equation modeling has been used to test the research hypotheses. The extent and direction of the relationship between research variables are indicated by the "factor load". The significance of the relationship between the variables is also examined by t-statistic. The strength of the relationship between the factor (hidden variable) and the observable variable is indicated by the factor load. The factor load is a value between zero and

one. If the factor load is less than 0.3, a weak relationship is considered and ignored. The factor load between 0.3 to 0.6 is acceptable and if it is greater than 0.6 it is very desirable. The t-test is used to evaluate the significance of the relationships. If the t value statistic is greater than the critical value of t0.05, ie 1.96, then the observed factor load is significant. Research variables and their symbols used in LISREL software are presented in Figures 4 and 5.



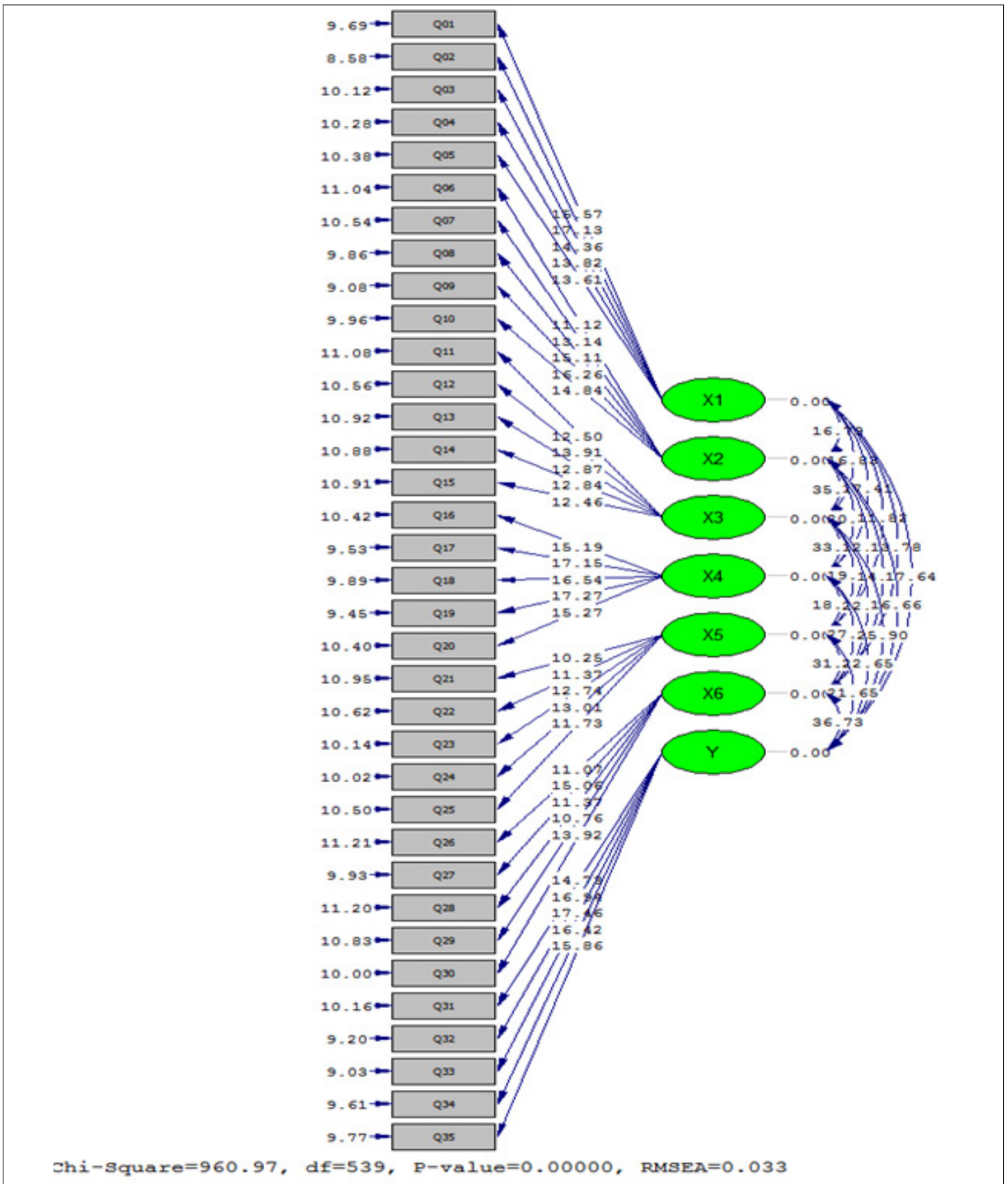


Figure 4: Test of research hypotheses (standard estimation)

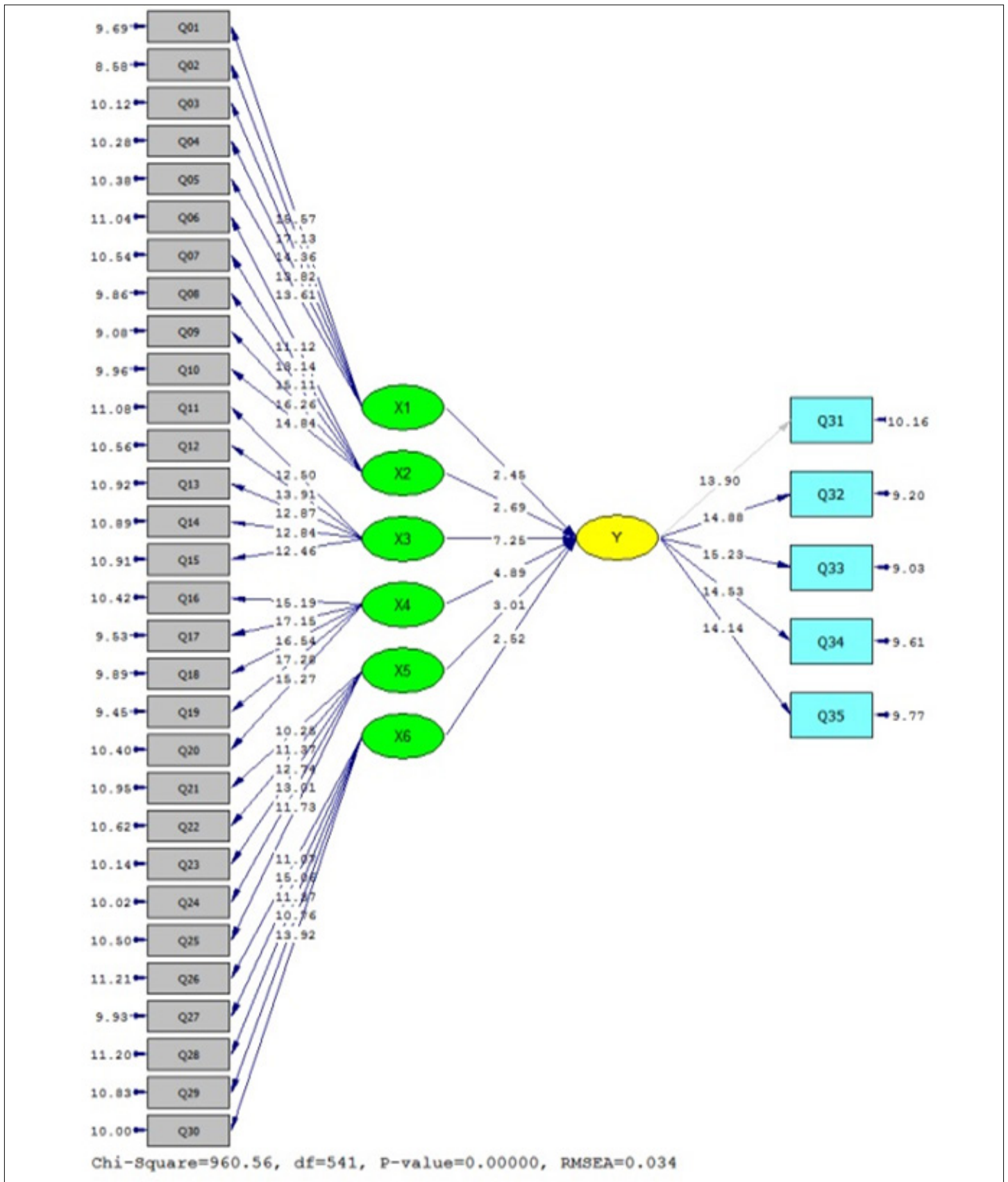


Figure 5: Test of research hypotheses (t-value statistic)

A summary of the results of the study of the relationship between research variables is given in Table 2

**Table 2:** Summary of test results of research hypotheses

Result	Factor loading	t-value	Dependent variable	Independent variable	Research Hypotheses
Confirmation	0.31	2.45		s	s
Behavioral intention	Expect performance	Hypothese1	s	s	s
Confirmation	0.35	2.69		Waiting for the effort	Hypothese2
Confirmation	0.69	7.25		Social impact	Hypothese3
Confirmation	0.40	4.89		Facilitate the situation	Hypothese4
Confirmation	0.39	3.01		Personal innovation	Hypothese5
Confirmation	0.34	2.53		the trust	Hypothese6

Analysis of variance test: Respondents in the present study are more than two categories in terms of age, education, and work experience. Therefore, analysis of variance (ANOVA) was used to compare the differences in people's views based on age. Using analysis of variance, it is determined whether age, education, and work experience are influential in their view of research variables.

Analysis of variance was also checked at 95% confidence level. The results are given in Table 3. The Significant

amount based on farmers' age factor is only in the field of performance expectation and behavioral intention is less than the error level, so these factors are influenced by the age factor. Tukey post hoc test shows that the older people are, the higher the average point of view of people. Significance depends on the factor of education, experience, and income in all cases greater than the error level (0.05) so there is no reason to reject the null hypothesis. In other words, farmers' education, experience and income do not affect their views.

**Table 3:** Significance of analysis of variance

Age		Agricultural / horticultural experience		Education		Annual income		Variables research
Sig	F	Sig	F	Sig	F	Sig	F	
0	9.352	0.81	0.321	0.473	0/839	0.341	1.133	Expect performance
0.255	1.36	0.877	0.228	0.406	0.972	0.621	0.658	Waiting for the effort
0.184	1.625	0.476	0.828	0.307	1.208	0.474	0.883	Social impact
0.093	2.159	0.861	0.251	0.316	1.184	0.848	0.344	Facilitate the situation
0.389	1.009	0.631	0.577	0.61	0.608	0.711	0.534	Personal innovation
0.307	1.207	0.766	0.368	0.749	0.405	0.64	0.633	the trust
0.034	2.919	0.327	1.157	0.374	1.042	0.343	1.13	the trust

**RESULT AND DISCUSSION**

User performance expectations have a positive effect on behavioral intention to use information technology. The standard factor loading effect of performance expectation on behavioral intention is 0.31. Also, the value of t-statistic is 2.45, which is greater than the critical value of 1.96. Therefore, it can be claimed with 95% confidence:

Hypothesis 1 is confirmed. In the apparent study of Nasr et al. (2015), the standard factor loading effect of performance expectation on behavioral intention was 0.35, which is in line with the research results.

Expecting users' efforts has a positive effect on the behavioral intent of using information technology. The standard factor for the effect of expectation of effort on behavioral intention is

0.35. Also, the value of t-statistic is 2.69, which is greater than the critical value of 1.96. Therefore, it can be claimed with 95% confidence: Hypothesis 2 is confirmed. In Mardanshahi study (2017), the standard factor burden of the expectation of effort on behavioral intention was 0.41 and is in line with the results of the present study.

Social factors have a positive effect on the behavioral intention of using technology. The standard factor for the effect of social factors on behavioral intention was 0.69. Also, the value of t-statistic is 7.25, which is greater than the critical value of 1.96. Therefore, the above hypothesis is confirmed with 95% confidence.

Facilitating conditions have a positive effect on the behavioral intention to use information technology. The standard factor of the effect of facilitating conditions on behavioral intention is 0.40. Also, the value of t-statistic is 4.89, which is greater than the critical value of 1.96. And so the hypothesis is confirmed with 95% confidence. The results of studies (Venkatesh et al., 2003) and (Wong et al., 2020) confirm this result.

Personal innovation has a positive effect on behavioral intention to use information technology. The standard factor of the effect of personal innovation on behavioral intention is 0.39. Also, the value of t-statistic is 3.01, which is greater than the critical value of 1.96. Therefore, the hypothesis is confirmed with 95% confidence. The results of the study conducted by (Gorav et al., 2017) confirm this result.

Trust in technology has a positive effect on the behavioral intent of using information technology. The standard factor of the effect of trust on behavioral intention is 0.34. Also, the value of t-statistic is 2.52, which is greater than the critical value of 1.96. Therefore, the hypothesis of the above number is confirmed with 95% confidence. The results of studies (Karba et al., 2017) and (Gu et al., 2009) confirm this result.

## CONCLUSION

The results showed that the expectation of users' performance affects the behavioral intention of using information technology. Therefore, it is suggested that by meeting the expectations of users regarding IT assistance in performing tasks faster and increasing efficiency, the behavioral intention of using IT in the statistical population of the research can be increased.

-The results showed that the expectation of users' efforts on the behavioral intention of using effective information technology is suggested to increase the intention of users to use it by clarifying the interaction of people with the information technology system and simply becoming proficient in using it.

-The results showed that social factors have a positive effect on the behavioral intention of using information technology. Therefore, it is suggested that the belief of a mid-level expert

or expert in the field of agriculture in the study area be examined to gain the trust of farmers and the relevant expert to express his views on the advantages and disadvantages of using technology in this area.

The results showed that facilitating the situation has a positive effect on the behavioral intention of using information technology. It is suggested that the necessary resources for the use of information technology systems be provided and the necessary knowledge for the use of information technology systems be available.

-The results showed that personal innovation affects the behavioral intention of using information technology. It is suggested to increase the use of this item by presenting their personal creative patterns and creating innovation in the use of information technology. It is clear that with the use of information technology, new methods can be used to produce and harvest the product, and this significantly increases the behavioral intent of using information technology.

-The results showed that trust in technology affects the behavioral intention of using technology. It is suggested that information such as providing the necessary training and support for this technology be provided by experts and specialists in this field in order to gain the trust of users. Also, try to increase the behavioral intent of using information technology by building trust in the safe use of information technology systems and providing reliable information.

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