JAHAN UNIVERSITY

BETTER EDUCATION WITH LOWER COST

TABLE OF CONTENT

Role of Information Technology in Solving Environmental Problems in Kabul-Afghanistan

Mohammad Salem Hamidi, Assistant professor at Jahan University
Email of Author
sshamidi13@gmail.com

Abstract

Technology causing some environmental problems, it also one of the best tools we have available to the people to help us understand how we can fix these environmental problems. Computers, mobiles and other information systems are available to people in the prediction of natural and technological events that affect the environment. The paper is an assessment of how efficiently information technology (IT) is used in the Kabul-Afghanistan physical environment. It outlines mainly the procedures of environmental management in Kabul Afghanistan in relation to the use and application of computer models, geo informatics and scientific techniques in environmental management. Environmental management bodies in Kabul Afghanistan served as the study population and results obtained. The research employed the use of questionnaire and interview, the method of analysis data is descriptive. The study promotes an objective evaluation of how well environmental agencies, management and equipment are executing, with the aim of safeguarding the environment. So the main objective of this research is to find the positive effects of technology for safeguarding of environment.

Keywords: safeguarding of environment, environment problem and information technology , environment organization.

1. Introduction

Afghanistan has 34 Million population, that more than 5 million of them life in Kabul Afghanistan, According national servey (2014), Kabul is the capital of Afghanistan. Human demographic growth, coupled with an advancement of economic activities in human settlements often precipitate an increase in environmental degradation (Smith, 2007). The need for research to address the problems resulting majorly as a result of his interaction with the environment is the reason behind this paper. The need for suitable modern technology for extensive and effective management and planning of environmental issues is evident in the study area. The paper showed the limited use of information technology in the study area. The problem here false in its operation and management, not in its usefulness. There is incompatibility in the research on information technology for environmental management. Inadequacy in finance to acquire adequate and up to date equipment and the problem of trained personnel to manage and manipulate environmental data efficiently are also evident in the study area.

However, information technology although still rudimentary in Afghanitan has been used in mitigating environmental problems. As opined by Uchegbu, (2002) and Ofomata(2001) the use of Geo- positioning systems (GPS), Geographical Information Systems (GIS) , Remote sensing, and other data analysis systems aids the environmental manager in finding the most efficient ways to make the environment more suitable. Some istances were modern computer technology was used include the work on the

State of Environmental Monitoring in Kabul-Afghanistan and ways to improve it, based on interviewed. Environmental management is a dynamic subject and its methodology is also dynamic. The importance of IT to environmental monitoring cannot be over emphasized as this is proven to be one of the most effective ways of solving environmental problems (Babalola, Akinola and Okhale, 2010). The directorate of environmental agency of Kabul was interviewed in relationship to their use of IT in addressing environmentally related issues.

The main focused of this paper is on enhancing awareness on the threats environmental degradation poses and updating environmental management authorities on apearing best practices in IT, by working out a framework that need to be implement to achieve a safe and healthy physical environment. even with the problems associated with the application of information technology to environmental management, the power of IT in solving environmental problems is outstanding, and as such people should be encouraged to be IT literate and governments and organization should provide the facilities and suitable environment for IT application to environmental management.

2. Literature Review

There is no doubt that technological advances in different sectors of human life like industry, agriculture, and transportation and so on. However, these activities, while providing the raw materials for production of goods and services have, also resulted in pollution of ground, atmosphere, rivers and vegetation (Okojie, 1991). Various literatures as [Omofonmwan, (2008) Ofomata (2001)] pointed out, environmental problems,desertification, urbanization, deforestation, overpopulation and pollution

has become important paradigms in Afghanistan in the last two decades. Every industry cities suffers from one form of environmental problem.

The need to protect the physical environment is pertinent. despite of the remarkable progress made in providing environmental information, there are still considerable constraints to the effective management and development of the environment (Omofonmwan, 2008)., deforestation, Urbanization and pollution are now more remarkable than before. In Afghanistan, uncoordinated policies and illegal instruments, no data base system, inadequate enforcement, inadequate and untimely funding, and lack of public awareness are evident in the environmental management process.

Information Technology offers a potential to solve many problems by providing a means of producing information, regular evaluation, monitoring and analysis to predict and visualize future scenarios Ofomata (2001) and Uchegbu, (2002). It can be used to define the association between variables on the land surface and help environmental managers in taken informed decisions. Modeling can analyze trends, identify problems, reveal alternative paths to solving the given problem. GIS can be used to integrate data enabling professionals in various disciplines to analyze and visualize relationships. Information technology (IT) can be used to evaluate changes in the physical environment; it can be used for trend analysis in spatial features throughout time.

Ogunsanya (2007) emphasized on use of Information technology in Environmental management. For instance, the use of internet can help identify users of recyclable materials and provide information about solar energy,

and so on. Users of computer can watch presentations on pollution, deforestation, loss of wildlife and then learn about ways to care for the environment (Atu, 2008). According to Rosen, et al, (1998), IT has a significant role in providing the public access to update, accurate and understandable environmental information which has been a major issue with environmental monitoring. Access to the data collected by Environmental monitoring systems is critical to support public participation within any environmental decision making process. According Schloss (2002) that environmental data collected by citizens have been used to keep communities and government agencies informed about the problems that need to be addressed thereby increasing public awareness.

The municipal planners concern is on the environment to monitor events and changes that take place in the environment. In other to do this, the urban planner works with data that relate to space (Uchegbu, 1998). GIS was used to join satellite images, and topographic database in other to produce a integrated sensitivity factor image layer by layer.

3. Objectives

- To Identify the environmental problems dominant in Kabul;
- To identify the information technologies in use by the environmental management agencies in the Kabul
- access the effect of IT on environmental management in Kabul;
- to identify and specify organizations that work on environment safety.
- 4. Research Questions
- What are the major environmental problems in Kabul-Afghanistan and its Causes and Effects?
- Which IT tools are in use by the environmental management agencies

in Kabul for solving environmental problems?
- How much is the efficient of IT on environmental management in Afghanistan?

5. Scope

The area under investigation is Kabul, Kabul is the capital of Afghanistan. It covers an area of 475 sq kilometers. It has a population of 5,000,000 according Governmental[1] survey (2017). It is the most populated state in Afghanistan and therefore faces a lot of environmental problems as an implication of population pressure.

6. Research Methodology

The study was conducted in the environmental management related agencies in Kabul Afghanistan. The agencies under interviewed include; National Environmental Protection Agency(NEPA) and Ministry of Transport. The method of acquiring data was through the administration of questionnaires and unstructured interview. The issues investigated covered major aspects as; air pollution, housing, transport, industrial emissions, mining, and other environmentally related problems.

Descriptive summary measures were used to represent outcomes of the variables investigated. Data obtained from the respondents relate to the management of the environment, and the use of information technology in solving environmental problems. The questionnaire obtained was analyzed in two parts; how far the environmental management agencies have used information technology to reduce environmental problems and the environmental problems in the study area.

1 www.kabul.gov.af/fa/page/22

7. Data Analysis and Discussions

Table 1: Major Environmental Problems in Kabul, and its Causes and Effects.

Problem	Cause	Environmental effects
Solid waste	• Urbanization • Reconstruction • Rebuilding • No canalization	• Filthy environment • Health problems • Contamination of soil water and air
Noise pollution	• Population • Urbanization • Industrialization	• Increase in property value • Health disorder • New fun
Traffic	• Population pressure • Poor road construction • Too many vehicles on the road • Poor transportation facilities • Old vehicles	• Air pollution from emissions • Accidents • Congestion and traffics
Air pollution	• Burning of refuse fumigation CO_2 from vehicle oil • Smokes and Particulate matter • Release of combustion gas • Combustion of garbage • Combustion of recycle plastics and woods • Custom of plastic use	• Ozone layer depletion • Global warming
Poor housing condition	• Rural–urban migration, • Rapid rate of uncontrolled and unplanned urbanization	• Competition for land • Acute housing shortage, • Rapid growth of population

above table represents the major environmental problems existent in Kabul Afghanistan. The table has highlighted that most of the environmental problems are rooted in anthropogenic factors as; urbanization and population pressure . These two factors among others have made worse the environmental problems in the study area, and have therefore threatened the ability of the environment to regenerate itself.

Resultant effects of these problems are key elements of environmental damage, and this has become a challenge to human. The area is plagued with large scale industrialization, massive migration from the rural population, and inadequate houses, water and sewage as well as the inefficiency of transport, old vehicle and other public services. These have created serious social and environmental problems in the study area. Major environmental problems as represented in table 1 include; dangerous emission from industries, pollution from traffic, inadequate housing, congestion and, poor sanitary conditions and waste. These are some of the resultant effects of human's interaction with his environment. These changes occur as the people attempt to acquire their seemingly endless desire for food, house, recreation and infrastructural facilities. However, as Ofomata (2002) said, rising to this challenge will require that the society adopt a mix of technologies, policies and practices that explicitly recognize the unavoidable binding among environmental systems and basic human needs.

Table 2: Major IT tools available to policy makers in solving environmental problems in Kabul Afghanistan

Environmental management body	IT tools available	Uses	Remark
National Environmental Protection Agency	Noise and air meter Digital camera	The introduction of noise meter has helped in maintaining the required noise level	Has been efficient in detecting the noise level and air emitted respectively
Ministry of mining and energy resources	MIS system, Internet, GIS, GPS, map digitization	• Effective determination of mine location • Adequate for information dissemination • For storing mine properties	Efficient in its use, but the absence of personnel trained to manage the sand mines.
Ministry of mining and energy resources (water)	GPS, Establishment of seismographic stations	Geodynamic center underground to monitor tremor (earthquake), sea surges	Less efficiency
Ministration of Transportation	GPs, Digital cameras and traffic lights	Tracking of vehicles Design of receptacles used by tenements Monitoring and surveillance, Data gathering	-Used for tracking waste and operational trucks. -Vehicles work efficiently without diverting away from route - Effective for management, Planning and restructuring
National Environmental Protection Agency	Internet, SPSS, weather forecasting apps, Climate thermometer	in the aspect of climate change the Internet has been used by the ministry to create awareness on environmental degradation. SPSS has aided in the analysis of survey studies,weather forecasting uses for forecasting weather	Its efficiency is good

The table above shows the various environmental management agencies in Kabul and the modern technology that is being used to meet the environmental problems. The efficiency of each tool was estimated and it was determined that; there is more that can be achieved with the use of these newest technologies in other to achieve a safe environment. The practical use of a mix scale approach involving GPS and GIS tools for the assessment of environmental change has been effective for the determination of mine site, by the ministry of mining and energy resources. Information technology can be applied to various aspects of the environment. Having the potential to solve many problems by providing a means of producing information, regular monitoring

and analysis to predict and visualize future scenarios and help managers in making inspire decisions. It is used to evaluate changes through the study of trends in spatial features through time (Omofonmwa and Osa-Edoh, 2008).

From the analysis in Table 2, it is clear that IT has not been efficiently used to meet environmental problems. Most activities like environmental management in Kabul, does not make optimum use and application of information technology. The research on IT is inconsistent and the problem of trained personnel to adequately operate the technology is the reason for its limited use in environmental management in Kabul Afghanistan.

8. Conclusion

Environmental management is a dynamic subject and its methodology is also dynamic. The importance of information technology (IT) to environmental monitoring cannot be over emphasized as this has proven to be one of the main ways of solving environmental problems. Environmental management agencies in Kabul Afghanistan are beginning to look towards that direction but with less fire-power. Some outstanding impact of Information Technology in the study area include; The design of traffic lights with digital cameras; this has served as a regional environmental information system(IS) and a decision support tool for policy makers in transportation management, and for the control and regulation of traffic. The GPS has also been used to track and monitor useless trucks and receptacles thereby improving waste management. The usage of IT in environmental management in Kabul Afghanstan was discussed in the paper. The expectation is that such an information system will help in displaying the interactions between the flimsy ecosystem of the region and human activities and then sharpen

the response mechanisms in dealing with the problems. Inadequate and capable manpower has been identified as one of the factors impeding effective environmental management and monitoring of the Kabul. Government is encourage to invest more in the training of staff of these agencies both locally and internationally . This will enable them to stay in touch with the modern ways of environmental management and also how to be effective in the discharge of their responsibilities.

References

Atu, A. (2008): An Assessment of the impact of Information Technology on Environmental Management. A case study of the Environmental Management Agencies in Umuahia, Abia State. Bsc, Project. Abia State University Uturu.

Omofonmwa, I.S. & Osa-Edoh, G. I. (2008): The Challenges of Environmental Problems; Geography and Planning and Educational Foundation, Ambrose Ali University J. Hum. Ecol., 23(1): 53-57 (2008)

Saeed .O. (2009): Use of Remote Sensing and GIS Techniques in the Selection of Solid Waste Disposal Sites in Lagos Island Local Government Area of Lagos State.http://www.academic.edu/2009

Governmental Report 2014 on Environment issue, access on

http://www.aop.gov.af/?page_id=993

Governmental Report on Waste Disposal Operation, access on

https://nepa.gov.af/show/143

Nadia community Reports , , 2017, access on

https://www.nadiaangoman.ru/-جغرافیه/عمومیافغانستان/

The Significant of Science and Engineering Education in Afghanistan

Ahmadzai Ahmadi1,, Sweeta Jallal1, Bahawodin Baha 2

1ICT Institute | Yakatoot , Kabul – Afghanistan

2University of Brighton, United Kingdom

Correspondance: Ahmadzai Ahmadi, Email: ah_7862@hotmail.com

Abstract

The importing of science, technology, engineering education which is the foundation of engineering and technology education has been briefly discussed and then the challenges to educate the engineers has been presented in the paper. Furthermore, the present situation and issues that will improve engineering education in Afghanistan has been present highlighted. Finally, a list of suggestions to further improve science and engineering education in Afghanistan will make to the Afghan government.

Keywords: Science, Engineering, Education, Technology, Education challenges

1. Introduction

During the last few decades there has been little or no change of delivering engineering education where the lecturers stand at the front of classroom, copying the derivation of his/her notes to the board while the students site down passively, copying from the board, reading, and working on the homework for another class or perhaps daydreaming [1]. However, there are some small differences, for instance the students use calculators instead of slide rules or perhaps use computers. The boards maybe green or white or maybe overhead projectors are used [2].

In the recent years, however, there has been some sign of changes where lectures have been increasingly reading education literature, attending engineering education conferences and workshops; and hence adapting new approaches in their teaching [3]. Furthermore, as the education in most developed countries is not free student's parents, government officials and major

employers have been raising question about the suitability of engineering education programs [4]. Major companies have always complained about the lack of professional awareness, low level of communication and team work skills and the failure of universities to properly integrate such practices within their education programs. These rumblings have been heard by the accreditation boards in the developed world for engineering and technology programs, which hold engineering schools accountable for the knowledge, skills and professional vales to be included in most engineering programs. The task of the accreditation board is to make sure that all engineering departments will have to demonstrate that besides having a firm grasp of science, mathematics and engineering fundamentals, their graduate possess communication, multidisciplinary teamwork, and lifelong learning skills and awareness of social and ethical issues associated with the engineering profession. Graduate engineers are required to develop a number of competencies through their working experience in order to get professional qualification. In addition to their educational and technical background, graduate engineers need to demonstrate attributes in engineering applications, management, leadership, team work, commercial awareness and abilities, interpersonal skills and communication, awareness of issues related to health and safety and professional commitment. It can be argued that even graduate engineers with a strong technical background may not be well prepared for the real working environment. The objectives of this paper are

first, to discuss the importance of science, technology, engineering education Second, the present situation of science engineering in Afghanistan will investigated and hence, recommendation will be made on how such skills can be integrated at science and engineering education in Afghanistan.

2. Importing of Science, Technology, and Engineering (STE)

STE education is defined as the preparation of students in competencies and skills in the three disciplines (science, technology, and engineering). A successful STE education provides students with science, engineering and technology in sequences that build upon each other and can be used with real work applications [5]. STE education creates critical thinkers, increases science literacy, and enables the next generation of innovators. Innovation leads to new products and processes that sustain the economy. This innovation and science literacy depends on a solid knowledge base in the STE areas. It is clear that most job of the future will require a basic understanding of technology, science and employment projections in part of developed has shown that o the 20 fastest growing occupations projected for 2025 and beyond will require significant science preparation. The education of STE has been crucial for human being during the last few centuries. Because of the advancement of SE education people have been able to extract meals, oil, gas and other valuable minerals from the earth and applied such materials specifically in the agriculture sector to alleviate the shortage of food in the first place. Then, the attention was focused on how to improve other aspect of life, good housing, health, efficient way of creating and using energy, communication and transportation and etc. The education of science and engineering has been promoted in the developed world

for wealth creation which subsequently to improve the lives of individuals in that part of world. It is evident that we are facing a critical talent gap in Afghanistan at vital subjects of science, technology and engineering, it is regrettable our government has not shown any strong commitment to address this critical issue, it is imperative that as a nation, we in Afghanistan ought to make STE education a top priority [6] [7].

3. Engineering and Technology Education in the context of Afghanistan

As the technology is changing rapidly, the workforce must adaptable and keen to learn new knowledge and skills which will be required as the advancement in the technologies happen, examples of such rapid development are the mobile telephones and computers. The education system has to facilitate lifelong learning and equipping students with the skills which they need to adapt and change.

Afghanistan had a progressive and reasonably established education system in the region before the wars and consequent instabilities started in several institutions of Technical Vocational Education (TVE) were established in Kabul and other provinces [7]. Due to the lack of technical facilities in the country, the development of Technical Vocational Education was slow compared to the general education of first through twelfth grades. Most of the TEV institutions, especially the successful ones, were established with the help of other countries such as the US, the USSR, Germany, the United Kingdom, and others, Technical Education in Afghanistan was initiated at the university level with the establishment of the faculty of Agriculture and Engineering in 1956, with help of the USAID, and the establishment of Kabul Polytechnic in 1968 with help of USSR [8]. Since then, the

education system in Afghanistan has been devastated, most will have qualified and experienced academics have been forced to lead the country, made redundant or killed, the academic that chose to stay behind have been isolated from the rest of the world for decades and therefore, most of them are currently unaware of the new development in scientific education around the globe Since the establishment of the new government in Afghanistan, limited progress has been achieved. One of the reasons behind any success has been the establishment of partnerships between the Afghan universities and universities in the developed world. The following major engineering institutions in Afghanistan have established a kind of partnerships with well-known universities in the US, Europe, and Asia through a world band sponsored program entitled the strengthening higher education project. The aim of this program was to promote strategic planning and the introduction of a development and reform program at key higher educational institutions. According to the author's knowledge, the list of the Afghan engineering institutions and their international partners include: a- Faculty of engineering, Kabul University, Afghanistan, with Kansa State University, and Ohio University, US, and with some intuitions in Japan and Europe universities [8]. b- The department of Electrical engineering and computer engineering and IT, Kabul Polytechnic University, Afghanistan, with the University of Brighton, UK. C – Faculty of engineering, Nangarhar University, Afghanistan, with San Diego State University (SDSU) USA [8]. d – Faculty of engineering, Heat University, Afghanistan with the university of Hartford USA. e - Faculty of engineering, Balkh University, Afghanistan, with Asian Institute of Technology (AIT), Thailand. e – Faculty of ICT, Kabul university with Europe through Erasmus Mundus program. The fundamental issues concerning the re-establishment of the

scientific education in the country which can significantly contribute to overcoming the nation's current major problems have not been addressed. According to the experience of this paper authors', the attempt to enhance the education of subject areas related to science, technology and engineering education has been restricted due to the following reasons:

- The lack of well-educated and experienced academic and technical staff
- The lack of suitable learning resources
- Outdated curriculum
- Lack of practical courses

Despite of this limited progress, there are many shortcoming in the existing engineering programs the need to be rectified. Recommendations are provided to overcome some of the shortcomings in the next section.

4. Recommendations

Recommendation ae made to address the following issues:

1. Revision of curriculum: Despite the fact that the curriculum of selected subjects has been updated, there is a strong need to evaluate and to improve the quality of all the existing degree programmers update the curriculum, develop appropriate educational paradigms, refurbish and reequip the laboratories in science, engineering and technology based on subjects. Integration of experimental work with theory needs to be at the core of the curriculums to overcome the lack of appropriate practical skills in the industry.

2. Improving basic education in STE subjects: Improving STE education is essential and it is strongly recommended that a council for promoting the STE education created as engineers and scientists need strong scientific background.

3. Improving of mobile coverage by internet providers:

The mobile network coverage is one of the vital necessities of any business and especially for science and education. Internet providers are ordinary to organize internet service in effect way to cover most of educational area school university and so on of a Particular country. We recommended that Afghanistan internet provider improve their internet service especially in education area based on international standard, and regular the optimization of network monitor it by ATRA (Afghanistan Telecom Regulatory Authority).

5. Conclusions

Engineering and Technical Vocational Education (TVE) education can play a major role in reconstruction and future development in Afghanistan. It is vital for the Afghan government to introduce major reforms which will enhance STE education in Afghanistan as the education of these subjects is he base of science and engineering education in the world. Technological advances in the developed world have improved the quality of life of individuals for inhabitant enhance the quality of STE this in the country will play a major role in speeding up the reconstruction process. Strong STE education is needed for the workforce in any society. Furthermore, the education of citizens in general is an important step in establishing a peaceful and prosperous society in Afghanistan. The rule of law can only be established through education, and the society after three decades of war, could become a modern society seeking appropriate solutions to its problems. These objectives cannot be accomplished without extensive external help form the international community. The Afghan government should be proactive in attracting foreign assistance and investments in the country and must plan for short and policies. However, total reliance on foreign assistance is not enough to provide sustainable and long term prosperity to the country hence, the government must ultimately make progress towards self-reliance.

References

[1] B. Amadei and R. Sandekian, "Model of integrating humanitarian development into engineering education," J. Prof. Issues Eng. Educ. Pract., vol. 136, no. 2, pp. 84–92, 2010, doi: 10.1061/(ASCE)EI.1943-5541.0000009.

[2] B. Baha and T. Katz, "The effect of partnerships on engineering education in Afghanistan," no. March, 2010, [Online]. Available: http://eprints.brighton. ac.uk/7586/1/ISEE_10_v4_BB.docx.

[3] B. Baha and T. Katz, "Modernizing the USSR era curriculum for electrical engineering at Kabul Polytechnic University," ASEE Annu. Conf. Expo. Conf. Proc., no. June, 2009, doi: 10.18260/1-2--4754.

[4] B. Baha and H. Waizy, "The Education of Science , Engineering and Technologies in War-affected Countries The Education of Science , Engineering and Technologies in War-affected Coun- tries," no. June, 2019, doi: 10.18260/1-2--33383.

[5] T. A. Litzinger et al., "Engineering education and the development of expertise," J. Eng. Educ., vol. 100, no. 1, pp. 123–150, 2011, doi: 10.1002/j.2168-9830.2011.tb00006.x.

[6] "Global Initiative on Out-of-School Children," no. April 2012, 2015.

[7] B. Baha, M. Diakoumi, and H. Waizy, "Higher education in science, engineering and technology in the war affected countries," ASEE Annu. Conf. Expo. Conf. Proc., 2019.

[8] A. Esmaeily, A. Pahwa, J. Thompson, and D. Watts, "Challenges and opportunities for strengthening higher education in Afghanistan," ASEE Annu. Conf. Expo. Conf. Proc., 2010, doi: 10.18260/1-2--16996.

The contribution of Agriculture Sector in the Economy of Afghanistan from 2017 to 2020

Shamshad Amarkhail, Hanifullah Bashar, Dr. Vijayendra kumar shrivastava

Jahan University, Kabul-Afghanistan

Email: Shamshad.nazary@gmail.com

Associate professor Department of Management VGU, Jaipur

Email: vijayendra.shrivastava@vgu.ac.in

Abstract

One of the most conspicuous trends of today's world is colossal upsurge in Agricultural products which makes a country to have a sustainable economy. Afghanistan is an importing country because of the fact that most of industries, including agriculture and handicraft were recently destroyed. In this paper the main purpose is to identify the contribution of agriculture to the Afghanistan economy by examining the experience of 34 provinces as documented in commissioned case studies and various secondary sources (CSO directory, FAO reports, government publications, USAID reports, NGO reports, journals, and websites) for the period 2017 - 2020. Agriculture is considered as the backbone of the Afghan economy, the contributions of agriculture to the country's gross demotic product (GDP) is 23% in 2020, while the labor force engaged in this sector is around 61.6%. The annual growth rate in Afghanistan is predictable 3.6%.Afghanistan produces organic fruits, nuts, grain, vegetables and livestock products including cashmere, skin, wool, and a significant amount of these commodities is moving towards the export market. Agriculture presents about one-quarter of national GDP and is the second largest sector after services. Over the 70 %of the population are poor living in rural areas, and agriculture plays a significant role in their livelihoods. The most Afghan farms are very small, and their productivity is low over the years that farmers produce to satisfy the food needs of their household, with limited agricultural production entering commercial marketing channels and the trade account deficit overall. The GDP including opium was US$ 20.3 billion with GDP per capita of US$ 697. The agricultural sector is entirely run by private enterprises, including farmers, cooperatives, input suppliers, herders, agribusiness processors, and exporters.

Keywords: Importance, Agricultural, Economy, Contribution, GDP, Afghanistan.

1. Introduction

Afghanistan is a poor country, Exports and Imports can play important role to build up physical capital, create employment opportunities and develop productive capacity in Afghanistan and help integrate the domestic economy with the global economy. As Afghanistan is land locked country, in recent all Afghanistan industry is destroyed. Agriculture is Afghanistan's most important industry, generating 24.58% of GDP. Fresh and dried fruits accounted for nearly half Afghanistan's total export which in 2013-14 formed 44% of Total exports of Afghanistan (CSO, 2014).

The majority of the Afghan population lives in rural areas, where poverty and deprivation are the most severe. Since almost all rural households depended directly or indirectly on agriculture and given the sector's large contribution to the global economy, agriculture can be expected to be an essential element of growth and development [1].

The country has not yet met the criteria for a successful the revolution of agricultural and production factor in agriculture lags far behind the rest of the world. Afghanistan's economy has faced widespread devastation over the last 40 years due to war and political instability wiping out the economic infrastructure and institutions across the country. The agriculture sector makes up approximately one-second of GDP and is vulnerable to wide fluctuations depending on weather and policy actions of Afghanistan's neighbors. Despite representing one-second of the economy, agriculture employs an estimated 60 percent of Afghans. The agriculture sector overall is very dependent on cereal and other annual field crop production which accounts for an estimated 23 percent of total agricultural GDP [2].

Agriculture has good growth potential and high influence for reducing poverty and creating jobs both on and off the farm. "The most people in the world are poor, so if we knew the economy of poverty, we would know much of the economics that matters. Most of the world people poor depend on agriculture, so if we knew the economics of agriculture, we would know much of the economy of poverty" [3].

Through the varied geography and topography, out of 652,000 square kilometers of total land area, only an estimated 12 percent is arable, 3 percent of the land is considered forest covered, 46 percent is under permanent pasture, and 39 percent is mountainous, not usable for agriculture [4]. There is cultivation plant by land face water and rainfall also rain fed wheat essential for cereal production. Wheat is the primary crop for production of cereal. Also, wheat uses for consumption 89% comparison too there grins. Fruits including watermelon, melon, apricot, pomegranate, and almond are essential for exports [5].

To rapidly increase the rate of agricultural growth, rather than trying to drive the whole agrarian sector forward at the same time, it may be more sensible to focus attention on a few "first movers:" priority on imported products and export traditional crops, and drive value chains for these hard for growth and creation job in the expectation that the rest of the sector will follow. Such an approach is very similar to that of the Asian Green Revolution, where a first thrust on the substitution of wheat and rice imports in high-potential irrigated areas has led to significant growth in agricultural employment and rural transformation [6]. The study shows that despite recent skepticism, agricultural growth is still vital for most low income in Afghanistan. The ability of Afghan farmers to find pathways out of poverty and to contribute actively to the growth process depends on improving infrastructure and education, distributing key technologies and inputs, and promoting producer and marketing organizations that link small farmers to new market chains. The challenge is therefore to develop new institutional arrangements between the public and private sectors that foster private sector development without leaving smallholder farmers isolated during the transition [9].

2. The Methodology of the Review

The main subjects covered by this study include a general outlook of agricultural sector in Afghanistan, contribution to national income, job creation and well-being for rural populations, sectoral contribution to GDP, and present situations of key subsectors (food supply source, livestock, and horticulture). It was aimed to understand their structure, performance, and potential for development. The data of the study collected from various secondary sources, (CSO, FAO reports, government publications, USAID reports,

NGOs reports, journals, and websites) for the period of 2017-2020. Lack of sufficient time series data on crop and livestock production, domestic consumption, exports, and their respective prices made the quantitative evaluation of the sector very difficult. There are serious gaps in the data collected during the years of conflict, and many of the data available are of uncertain quality and contain noteworthy contradictions. The years of conflict saw a shortage of field-based studies on critical agricultural issues. Many agricultural activities also failed or were disrupted during the conflicts, leaving few successful models that can be scaled up. Further, the deteriorating security situation significantly limited field trips during the review period.

3. Agriculture Economics Growth

Afghanistan is an agricultural country with 80% of the population lives in rural area. Most of the Afghan economy's output comes from agriculture. Agriculture is the most crucial sector of the economy, as the majority of the population is dependent on crops and has a long tradition in horticulture and livestock production, including for export. A major part of this production is wheat, and more generally cereals, produced for domestic consumption. The agricultural value added is estimated at Afs 316510 million or about 23% of GDP in 2016-2017 respectively. Overall the Agriculture sector has increased compared to last year by 12.4 percent [7]. The reason for this increase was due to enough rainfall in spring, which affected agriculture production. Agricultural production in Afghanistan almost entirely depends on melted snow and spring rains to provide water. The good weather contributed to high cereal production, even in good years. Maximizing growth in agriculture will require investing more in the expansion of irrigated land; improving the conveyance of irrigation water and the on-farm management of this water, and developing services for generating knowledge and disseminating technology. The agriculture sectors share in overall employment in Afghanistan is 60 %. The total officially recorded exports from Afghanistan was USD$ 482 million and imported $3.77B, resulting in a negative trade balance of $3.29B, during the last five years the exports of Afghanistan products have decreased at an annualized rate of -15.486%, from $ 531M in 2011 to $482M in 2016. The major export items were carpets and rugs (17% of the total export of the country), dried fruits 37%, medicinal plants 6%, fresh fruits 5%, skin 2% and other items 33%. Hence, dry fruits constitute an important export item from Afghanistan. The major export country of Afghanistan is India ($220M), Pakistan ($199M), Iran ($15.1M), Iraq ($10.1M) and Turkey ($9.1M). Afghanistan's agricultural products earned a global reputation for excellence, particularly almonds, pomegranates, pistachios, raisins, and apricots. Afghanistan is now re-establishing its place on the international market.

3.1 Contribution to National Income

The financial value of all the finished goods and services produced within the borders of a country during a given period. Although GDP is generally calculated on an annual basis, GDP includes all private and public consumption, government outlays, investments, private stocks, paid construction costs and the foreign trade balance (exports are added, imports are subtracted). Simply put, GDP is a broad measurement of a nation's overall economic activity (Anonymous, 2017). In order to show economic condition in the country, GDP for Afghanistan is compiled into two categories; GDP includes opium and GDP exclude opium. GDP including opium was 1373275 Million Afs) US$ 20.3 billion (with

GDP per capita of Afs 47030 equal to US$ 696. GDP excluding opium was (1333812 Million Afs) US$ 19.7 billion (with GDP per capita of Afs 45678 equal to US$ 676. [8]. Table 1 shows the agriculture contribution Gross Domestic Product (GDP) in Afghanistan from 2013 – 2017, while cereals crops contribution is 8.5%, Fruits 3.3 %, livestock 2.9 and others agriculture production is 8.4% in the year of 2017. Table 2 shows the agriculture % GDP growth rate at the constant price from 2015 – 2017, whereas the GDP growth rate in cereals crops is –4.7%, Fresh Fruits 32.1%, livestock 0.2 and others agriculture production is 6.3% in the year of 2017. Table 3 shows the Gross Domestic Product (GDP) Agriculture Activity in Current Price 2015 -2017, as the agriculture production is 316510 million Afs (Afghanistan currency) in 2017[14].

3.2 Sectoral Contribution GDP

The agriculture sector in Afghanistan contributed 23% to the Gross Domestic Product (GDP), while industry contribution is 21.1%, Services 51.6% and tax on imports 4.3% as shown in Figure 1[5].
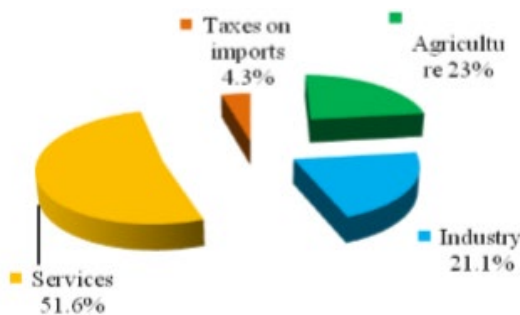

Figure 1. Sectoral Contribution GDP

3.3 Food Supply Source

Agriculture is the essential source of food supply for all countries, whether they are underdeveloped, developing or even developed in the world. Table 4 shows the quantity of cereals crops production (tons), the total average cereals crops production was 6.189 million metric tons in Afghanistan between 2013 -2017. In 2017, cereal

production for Afghanistan was 5.525 million metric tons. The deceleration in growth was primarily driven by the decline of the agriculture sector. Wheat is a major crop for food. Every year cultivated on irrigated and rainfed area the average wheat production in 2013-2017 was4.96 million tons. The average of rice production was 0.463 million tons which decreased in 2017 by 13.03% compared to the previous year. This decrease in production was due to a reduction in the area of cultivation. The average production of barley was 0.448 million tons compared to last year decreased by 25.09%, and maize production was 0.313 million tons. The production of both rain-fed and irrigated wheat, which account for almost 80 percent of Afghanistan's entire output of cereals, fell, mainly due to low rainfall. By contrast, the fruit output increased by around 7 percent. In 2017, the production of cereals declined by an additional 2.1 percent, with the per hectare yield of wheat falling by 8 percent due to crop diseases and pests. Table 5 shows the crop yield of agricultural products (Kg/Ha), the total average wheat production is 2067 Kg/Ha, rice 2646 Kg/Ha, barley 1442 Kg/Ha, maize 2229 Kg/Ha, potato 12894 Kg/Ha, sugar beet 9184 Kg/Ha, sugar cane 16963 Kg/Ha and almond 1779 Kg/Ha in Afghanistan between 2015 -2017.

3.3.1 Livestock

The livestock sub-sector is another key component in Afghanistan's economy; livestock currently contributes about 15 percent of agricultural GDP. Afghanistan exports some livestock products mostly skins, wool, and cashmere. Livestock Products such as wool, milk, meat, skin, and fat are an important source of income for the farmers and a good food source for the farmer households. Based on the last three years reports by the ministry of agriculture, irrigation, and livestock, the average numbers

of animals are cattle's 5.2 million, sheep 13.3 million, goats 7.4 million, camel 0.17 million, horse 0.17 million, ass 1.4 million and chickens 11.9 million.

3.3.2 Horticulture

Horticulture subsector plays a vital role in providing livelihood to the farmers; horticulture contributes 34 percent of agricultural GDP. The major fruit varieties are apple, pomegranates, apricots, mulberries, grapes, and almonds. Fruit cultivation area was 181 thousand hectares. However, orchards products are the major source of income for farmers in many areas of the country, and the majority of large and medium-sized orchards are exclusively for markets. According to the ministry of agriculture, irrigation, and livestock, the fruit production in the year of 2017 was 1.2 million tons, whereas production of vegetables was 427.9 thousand tons, Potato and onion are major vegetables they are specially used for food in the country [12].

3.3 Job Creation and Well-Being of Rural Populations

In Afghanistan, more than 60% of the total labor force is dependent on agriculture. Agriculture provides large-scale employment opportunities for rural people in underdeveloped and developing countries. It is an important source of livelihood. Typically, landless workers and marginal farmers are engaged in non-agricultural jobs such as handicrafts, furniture, textiles, leather, processing industries, and in other service sectors. To raise the agricultural surplus caused by increasing agricultural production and productivity tends to improve social well-being, particularly in rural areas [13].

4. Conclusion

From the explanation of above conclude that the agriculture plays an important role in the economic development of a country. It has already made an important input to the economic prosperity of advanced countries and its role in the economic development of the least developed countries is the essential importance. "The increase in agricultural output and the rising per capita income of the rural community, as well as industrialization and urbanization, leading to an increased demand for industrial production" [11] Agriculture provides employment opportunities for rural people on a large scale in underdeveloped and developing countries. It is an essential source of livelihood. The agriculture sector development would tend to increase the farmers purchasing power, which will help the growth of the non-agricultural sector of the country. It will provide a market for increased production.

5. References

[1]   Diao, X., Hazell, P. B., Resnick, D., &Thurlow, J. (2007). The role of agriculture in development: implications for Sub-Saharan Africa (Vol. 153). Intl Food Policy Res Inst.

[2]   Jalal, A. & Ward, M. (2011) Afghan Agricultural Economy Update: Afghanistan.

[3]   Schultz, T. W. (1980). Nobel lecture: The economics of being poor. Journal of Political Economy, 88(4), 639-651.

[4]   The government of Afghanistan, Central Statistics Organization (CSO). (2016). Agriculture Development. Kabul: CSO.

[5]   Afghanistan Statistic Organization Yearbooks, 2017

[6]   World Bank (2014).Afghanistan: Pathways to Inclusive Growth. Washington, DC: World Bank.

[7]   World Bank, (2014).Islamic Republic of Afghanistan Agricultural Sector Review. Revitalizing Agriculture for Economic Growth, Job Creation, and Food Security.

[8]   The government of Afghanistan, Central Statistics Organization (CSO). (2017). Agriculture Development. Kabul: CSO.

[9]   USAID (2010)."Assessment of Agricultural Research in Afghanistan."Kabul: USAID.   [10] Anonymous (2017). Gross Domestic Product (GDP) - Investopedia, IncURL (access date: 31.01.2018). https://www.investopedia.com/terms/g/gdp. asp#ixzz55mlmaa9R

[11] Gradinaru, I., &Mocuta, D. (2017). Farm Structures In The European Union. Growth, 17(1).

 [12] Samuel Hall Consulting, 2012."Social Assessment of the National Horticulture and Livestock Project." Kabul: Samuel Hall Consulting.

[13] De Weijer, F. (2005). "National MultiSectoral Report on Kuchi." Kabul: Afghanistan Ministry of Rural Rehabilitation and Development

[14] The government of Afghanistan, Ministry of Agriculture, Irrigation, and Livestock (MAIL), (2016).

APPENDICES

Table 1. Agriculture Contribution as % of GDP

Sector	2016	2017	2018	2019	2020
Agriculture					
Cereals					
Fresh Fruits					
Livestock					
Others					

Table 2.Agriculture % GDP Growth Rate at Constant Price

Sector	2016	2017	2018	2019	2020
Agriculture					
Cereals					
Fresh Fruits					
Livestock					
Others					

Table 3: Gross Domestic Product in Agriculture Activity in Current Price Figures in Million Afs

Source: Afghanistan Statistic Organization Yearbooks, 2017

Table 4. Cereals Crop Production Tons

Sector	2016	2017	2018	2019	2020
Agriculture					
Cereals					
Fresh Fruits					
Livestock					
Others					

Table 5. Crop Yield of Agricultural Products Kg per/ Ha

Indicators				
Cereals				
Wheat				
Rice				
Barely				
Maize				

Table 6. Livestock by Type of Animal Figures in Thousand

Animal				
Cattle				
Sheep				
Goat				
Camel				
Horse				
Ass				
Mule				
Chicken				

Table7. Fruit Production and Area

Nuts		
Peach		
Almond		
Pomegranate		
Apple		
Grape		
Walnut		
Potato and beet		
Potato		
Sugar beet		
Sugar cane		

Source: Ministry of Agriculture, Irrigation, and Livestock, 2017

IMPACT OF TOTAL QUALITY MANAGEMENT PRACTICE ON CUSTOMER RETENTION AND SATISFACTION

Abdul Hakim Noori

Department of Management Science, Jahan University

hakim_norri@yahoo.com

ABSTRACT

Total quality management practice is a strategy of business-wide management to consistently increase the quality of products/services/processes by focusing on the needs and desires of consumers to improve customer engagement, loyalty and company performance. The relationship between overall quality control strategies and client retention, loyalty and efficiency is mixed. Total quality management is a firm-wide management methodology for the constant enhancement of products/services/processes quality with an emphasis on customer demands and preferences. This paper aims at exploring and recognizing the effect on consumers' retention and loyalty of full-fledged quality management activities, different methods of total quality. In order for a competitive edge to emerge and to boost corporate efficiency and customer loyalty an increasing number of companies use absolute quality control as a strategic basis. As a consequence of intensive global competition, the idea of total quality management was created. The concepts of total quality management, processes, tools and strategies are given significant importance by international trading and competitive competition organizations.

1. INTRODUCTION

Total quality management approach is an overarching organisational management strategy of constantly enhancing product/service/process efficiency by concentrating on the needs and desires of consumers in order to improve engagement, loyalty and business efficiency. The partnership between overall quality control activities and retention, loyalty and efficiency of the consumers has mixed outcomes. This research would therefore analyse the imp acts on consumer retention and loyalty of complete quality control activities.

Impact of Total Quality Management Practice on Customer Retention and Satisfaction The principles and methods of total quality management (TQM) are now recognised as part of almost every manager's "toolkit." Powel (1995) notes that most major corporations have taken on TQM somewhere and official award for consistency is a tribute to whether they work in Japan, the United States, Europe or Australia. Implementing TQM is a big organisational shift which calls for a change in the culture, procedures, strategic goals and beliefs of the organisation. A growing number of organizations use total quality management as a strategic foundation for generating a competitive advantage and improving firm performance and customer retention and satisfaction. Firms that have won quality awards generally outperform other firms with respect to income measures, customer loyalty and stock market value. It is no surprise that the links among market orientation, total quality practices, and performance have attracted the attention of marketing and operations management researchers' alike.

2. OBJECTIVES OF THE STUDY

The aims of this study are as follows:

1. To research the effect on TQM on customer retention and satisfaction.

2. To research the alternatives to the overall quality management framework.

3. Identifying the factors controlling the TQM in businesses.

3. REVIEW OF LITERATURES

Munizu, M. (2013) researched aims to test the effects on competitive advantage and corporate success on overall quality control (TQM). Data were obtained by a survey method. The findings of their study show that TQM experience impacts both business success and strategic advantages in both constructive and important ways.

Saffar, N., & Obeidat, A. (2020) explored the effects on employee efficiency, worked with a moderating share of expertise for the Interior Ministry of Qatar, of Total Quality Management (TQM) activities in their dimensions. TQM includes the focus on our clients, staff engagement, constant development, leadership & good direction and management of operations. The findings suggest that TQM activities with their measurements have a share of awareness effects on employee efficiency. The findings of their study help to establish and execute various strategic directions, which improve employee efficiency by embracing TQM and spreading a knowledge-sharing culture.

Hoang, D. T., Igel, B., & Laosirihongthong, T. (2006) explored the connection of Total Quality Management (TQM) with business innovation performance in Vietnam. In their study, they have checked the results of previous research, which found TQM a sequence of works. It shows that the TQM has a positive influence on the innovation of the organisation as a collective of operations. In all of the TQM activities it shows no shift in firm innovation. Leadership and management, process and strategic management and a consistent organisation have been the only constructive impact on its artistic performance.

Sweis, R. J., Al-Mansour, A., Tarawneh, M., & Al-Dweik, G. (2013) investigated the role of TQM predictors on Saudi healthcare employee empowerment. Results suggest that TM activities have a positive effect on workers as introduced. The study concluded that capacitybased projects, collaboration and coordination are healthier and deeper and that dedicated management, procedures are constantly strengthened and clients are happy. Karia, N., & Asaari, M. H. A. H. (2006) analysed the effect on behaviours of workers through Total Quality Management (TQM) activities. The impact of preparation and training on workplace engagement, job satisfaction and organisational involvement are strongly positive. Empowerment and teamwork improve workplace engagement and satisfaction onsiderably. The emphasis on consumers does not encourage engagement or happiness in the workplace.

Prajogo, D. I., & McDermott, C. M. (2005) examined the relationship between the activity and corporate culture of total quality management (TQM). Conclusions support the pluralistic view in which numerous subsets of TQM activities are described by different cultural groups. The key implication is that organisations must achieve divergent priorities by designing a structure that gives them sufficient flexibility to adapt different types of management (even contrasting ones). As the basis for the report, the test model uses the National Consistency Award Malcolm Baldrige parameters.

4. TOTAL QUALITY MANAGEMENT

Total quality management is an organisation's quality management strategy that is founded on the commitment of all of its members and seeks to achieve long term sustainability by pleasing its clients and supporting the members of the organisation and community. Total Quality Control is a coordinated framework to please consumers and suppliers internally and externally by integrating the market climate, improving continuously and breaking through with growth, enhancements and maintenance cycles while evolving corporate cultures. Total Quality Management refers to the managerial and organisational role to carry out the planning, coordination, direction and control of operations which lead to the determination and execution of the quality standards and standards necessary for goods and services. In particular, the idea of full quality is the notion that perfection and ideal efficiency are very important in all market functions and their allies.Total quality management philosophy is motivated by the core principles:

"*Commitment, Culture, Improvement, Co-Operation, Focus of Customer, Control, CrossFunctional, Cause Analysis, Change, Concept of Teams*".

4.1. Customer Retention

The preservation of customers is a number of practises that ensure the long-term management of customers. Most of the businesses reports stated that keeping consumers is much better than buying them. Loyal clients are more likely to invest with you than the average consumer. Data show that increasing retention of customers by 5% can increase income from 25% to 95%. The great thing about loyal clients is that they tend, and become your brand ambassador, to share their good experiences. Some of core customer retention policy has been stated bellow

"*Customer feedback Survey, Educate your customer, Good communication with customer, Leverage personalization, Offer fast delivery and easy returns, Find ways to delight your customers consistently, Provide exceptional customer service, Use subscriptions to keep customers coming back*"

4.2. Customer Satisfaction

Customer satisfaction can be increased, established success can continue or the company can expand well. There are approaches. You should only start offering great customer support, it will be quick to claim. This is too common, though. You should also concentrate on specifics, tasks that more than 'satisfy' your customers. You want your business to love it so much that they're going to recommend it to everyone. By recognising how rare outstanding customer service is, you can begin to accomplish this purpose. Different strategies for better customer satisfaction

"Be credible, Be real Be true, Listen to your customer, Respect your customer, Be transparent, Be consistent, Keep your promises"

5. RESEARCH METHOD

A quantitative methodology is used in this analysis. The quantitative approach emphasizes theory or concept testing by means of variable metric measurements and by means of statistical tools. A questionnaire method was used for obtaining the data in this study's. The participants were Bhubaneswar, Odisha's customer, 120 retail customers of different showroom were participated in this study Three main variable i.e Total Quality Management (TQM) practises, retention of customers, customer satisfaction were studied.

6. RESULT AND DISCUSSION

6.1. Validity and Reliability Test Table-1 displays the findings of the validity and reliability test. Cronbach's α were centered on the table well above the 0.60 which indicate the data is reliable. It can then be inferred that the method used was correct and Trustworthy.

Table-1

Sl.No	Variables/Indicators	Cronbach's α	Description
1	Total quality management	0.781	Reliable
2	Customer retention	0.822	Reliable
3	Customer satisfaction	0.845	Reliable

6.1. Descriptive Statistics

Three main variable i.e Total Quality Management (TQM) practices, retention of customers, customer satisfaction were studied and the descriptive statistics has been mentioned bellow

Table 2 Descriptive statistics total quality management

Variables/Indicators	Mean	Description
Total quality management		
Commitment	4.45	Very High
Culture	3.80	High
Improvement	4.56	Very High
Co-Operation	4.78	Very High
Focus of Customer	4.83	Very High
Control	3.91	Very High
Cross-Functional	4.01	High
Cause Analysis	4.90	Very High
Change	3.6	Very High
Concept of Teams	4.23	High

Table 3 Descriptive of customer retention

Variables/Indicators	Mean	Description
Customer retention		
Customer feedback Survey	4.41	Very High
Educate your customer	3.82	High
Good communication with customer	4.33	Very High
Leverage personalization	4.88	Very High
Offer fast delivery and easy returns	4.81	Very High
Find ways to delight your customers consistently	3.95	Very High
Provide exceptional customer service	4.27	Very High
Use subscriptions to keep customers coming back	3.67	High

Table 3 Descriptive of Customer satisfaction

Variables/Indicators	Mean	Description
Customer satisfaction		
Be credible	3.74	High
Be real Be true	4.55	Very High
Listen to your customer	4.76	Very High
Respect your customer	4.31	Very High
Be transparent	3.97	High
Be consistent	4.37	Very High
Keep your promises	3.67	Very High

From the above table it is observed that most of customer reported positively on various aspect of TQM, customer retention and customer satisfaction all result indicates that TQM and customer retention and customer satisfaction are having positive impact on organizational outcome.

7. CONCLUSION

The goal of this analysis was to determine the impacts on customer retention and customer satisfaction of TQM activities. From the above research, it was found that TQM activities have a favorable and substantial impact on customer retention and customer satisfaction. Retention of consumers and customer satisfaction have a positive and important impact on corporate results. Via these activities, client engagement and customer loyalty, corporate efficiency is more affected. TQM activities offer the best reason for enhancing corporate efficiency across competitive advantage dimensions such as price or expense, delivery, creativity and time on the market. A better competitive edge will lead to the best results.

REFERENCES

[1] Munizu, M. (2013). The Impact of total quality management practices towards competitive advantage and organizational performance: Case of fishery industry in South Sulawesi Province of Indonesia. Pakistan Journal of Commerce and Social Sciences (PJCSS), 7(1), 184-197.

[2] Saffar, N., & Obeidat, A. (2020). The effect of total quality management practices on employee

performance: The moderating role of knowledge sharing. Management Science Letters, 10(1), 77-90.

[3] Hoang, D. T., Igel, B., & Laosirihongthong, T. (2006). The impact of total quality management

on innovation. International journal of quality & reliability management.

[4] Sweis, R. J., Al-Mansour, A., Tarawneh, M., & Al-Dweik, G. (2013). The impact of total quality management practices on employee empowerment in the healthcare sector in Saudi Arabia: a study of King Khalid Hospital. International Journal of Productivity and Quality Management, 12(3), 271-286.

[5] Karia, N., & Asaari, M. H. A. H. (2006). The effects of total quality management practices on employees' work-related attitudes. The TQM magazine.

[6] Prajogo, D. I., & McDermott, C. M. (2005). The relationship between total quality management practices and organizational culture. International Journal of Operations & Production Management.

Investigating the role of Herat University on the entrepreneurship of graduates
Case Study; (Graduates of Engineering, Computer Science and Economics).

Researchers:

Associate Prof. Abdul Azim Mommand

Assist. Prof, Hanifullah Bashaar

Abstract:

The main purpose of this study is to investigate the impact of Herat University on the entrepreneurship of engineering, computer science and economics graduates; the main purpose of this study is to investigate the role of Herat University on the entrepreneurship of graduates. Engineering, Computer Science and Economics of Herat University, the number of which reaches 1496 people during the years 2014, 2015, 2016. The statistical sample through the Cochrane formula is estimated at (305) of graduates of the above universities. The questionnaire was collected and analyzed using SPSS24 and Excel software. The correlation coefficient between the role of Herat University and the rate of entrepreneurship (** 297,) was obtained, which indicates a positive and relatively weak relationship. The role (effect) of each of the components of the independent variable on the components of the dependent variable and the independent variable on the dependent variable was measured, the regression coefficient (β = 256) was obtained, which indicates a relatively weak positive effect. According to the research findings of the President of Herat University, it is suggested that with Careful study of the current situation and helping to reduce the unemployment rate in the community to increase the quality of the structure, education and professors of this university to make more efforts.

Keywords: **University, Entrepreneurship, Entrepreneurship Education and the structure of the educational system.**

Problem Statement

The issue of education and teaching has been considered in Afghan universities so far; but not enough attention has been paid to research issues.

The majority of students are still largely unfamiliar with entrepreneurship; because adequate and physical infrastructure has not been provided for the development of entrepreneurship and the employment problem of university graduates has become a social problem and the ground for brain drain and all kinds of false jobs has been provided (Nowruzi, 2016, p. 1). There are students who do not have the individual abilities and skills to start a business and often seek employment instead of creating job opportunities and entrepreneurship and participating in national development (Heidari, 2009, p. 71). Despite the efforts of universities and higher education institutions in the field of training specialized and efficient human resources needed by society, unfortunately due to the inadequacy of university courses and titles with the needs of society, university students do not have the necessary expertise and efficiency to hold relevant jobs; Because what they have learned has

little to do with the real needs of society (Heydari, 2006, p. 1). Weakness of effective education in universities is not only one of the most important educational issues of the day, but also considering the rate of population growth, it can be considered the most important educational challenge in the next few decades (Behnam, 2016, p. 2).

Also, most university professors and researchers do not have an entrepreneurial spirit (Safarzadeh, 2009, p. 3); because they work in a very organized system and entrepreneurship education teachers are inflexible in terms of teaching methods. In addition to the weakness of the education system in teaching entrepreneurship concepts, lack of complementary structures to create physical infrastructure to develop entrepreneurial spirit in students are other weaknesses of the system it is educational.

The structures of the educational system in the country's universities have been formed with the aim of specialized education of students, and less emphasis is placed on strengthening and training entrepreneurship in students, so that university graduates are often unfamiliar with the basic concepts of entrepreneurship. Another problem is that it is difficult to find a place for entrepreneurship education other than business and engineering in the structure of the current education system. On the other hand, in order to expand entrepreneurship in all fields of study, except for the mentioned fields, in-depth entrepreneurship studies are needed in all faculties. Many faculties consider this as a sub-issue. (Safarzadeh, 2009, p. 3) .

The large number of university graduates has saturated public and even private organizations in terms of the required staff, and a large number of university graduates are not able to be recruited in these organizations. This issue has caused the migration of university graduates to another country and also has made the unemployment of graduates an important problem in the country (Heydari, 2006, p. 2). In view of the above explanations and problems, the present study aims to clarify the above issue.

Importance and necessity of research

Entrepreneurship education today, in industrial and post-industrial countries, has a significant part of the educational programs of universities. Entrepreneurship education courses have not only found their place in the context of university courses, but also elementary and secondary courses. Entrepreneurship is one of the ways that should be prioritized as a sustainable action towards job creation, so that it educates people, especially young people, to have the ability to take appropriate action along with flexibility and acceptance of situations. Have an insecure and complex job in the labor market and be able to create new jobs with proper innovation and risk-taking.

In this regard, public universities and institutes of higher education can move rapidly in the field of knowledge and technology production due to the presence of stable academic staff and advanced research facilities at a level that non-governmental centers can hardly provide. Research and benefit from their achievements. They prepare students by passing special training courses to coordinate with the needs during the transformation of society and in this way provide the ground for entrepreneurship in society (Nowruzi, 2006, p. 71). The university is a good place for knowledge-based innovation due to its basic characteristics such as human capital in the form of students and faculty members; therefore, the university can be the most important reference for the production and dissemination of entrepreneurial knowledge.

In recent decades, attention to entrepreneurship and its training in higher education have become important, the purpose of entrepreneurship education is to make students creative and acquire the necessary skills such as management and marketing skills.

Entrepreneurial individuals and those with entrepreneurial traits can be involved in proactive professional transformations, know the path of change, become aware of new needs, and play a role in creating new jobs. Accordingly, it is necessary for students to be trained in such a way that entrepreneurial qualities develop in them (Rezaei, 2009, p. 46).

Promoting entrepreneurship in universities has been one of the best solutions that most countries have considered to solve the problem of unemployment. In fact, the education system of these countries has had a significant impact on economic development and solving the problem of unemployment through planned intervention. Considering the process of entrepreneurship in universities, the United Nations in the perspective of higher education for the 21st century, new universities like this "A place where entrepreneurial skills are developed to facilitate students' ability to become job creators," he said.

While solving their past problems, universities must be able to deal with new issues and remain effective by implementing new policies and solutions. The future success of universities depends on their ability to respond to change; Therefore, in order to recognize and meet the needs of the future, it is necessary for university leaders and policy makers to make profound and wide-ranging changes in their missions and goals and to manage the university in completely new and different ways from the past to enable universities to survive and grow. Therefore, creating fundamental change requires a complete, useful and clear policy (Taghipour Zahir, 2006, p. 3).

In order to achieve the goals of entrepreneurship in the university, it should be noted that if the people under training are coordinated with the goals, content and teaching methods, there will be more benefit from the educational efforts. Because Herat University is one of the most prestigious universities in the country. And it is the region, efficiency for the university creates revenue sources and self-government of Herat University and through these resources it can be transformed from a consumer organ to a productive organ. Research will also expand significantly in this way. Entrepreneurship education for students motivates and increases their ability to start a business and reduces the unemployment rate among the educated community.

The results of this study will provide appropriate solutions to increase entrepreneurship in Herat University, to be a good guide for Herat University to increase entrepreneurship and thus reduce the unemployment rate of graduates. To play a prominent role in the development of the country and on the other hand to provide a way for future researchers to have more fundamental steps and comprehensive research in this field in the coming years.

Research objectives

Main Objective: To investigate the impact of Herat University on the entrepreneurship of graduates of Engineering, Computer Science and Economics

Sub-objectives

1. Investigating the role of Herat University structure on the level of creativity and innovation of graduates

2. Investigating the role of Herat University structure on the degree of independence of graduates

3. Investigating the role of the structure of Herat University on the level of risk-taking of graduates

4. Investigating the role of educational content of Herat University on the level of creativity and innovation of graduates

5. Investigating the role of educational content of Herat University on the degree of independence of graduates

6. Investigating the role of educational content of Herat University on the level of risk-taking of graduates

7. A study of the role of Herat University professors on the level of creativity and innovation of graduates

8. A study of the role of Herat University professors on the degree of independence of graduates

9. Investigating the role of Herat University professors on the risk level of graduates

Research questions

Main question: Does Herat University affect the entrepreneurship of graduates of engineering, computer science and economics?

Sub-questions

1. Does the structure of Herat University affect the creativity and innovation of graduates?

2. Does the structure of Herat University affect the degree of independence of graduates?

3. Does the structure of Herat University affect the risk level of graduates?

4. Does the educational content of Herat University affect the level of creativity and innovation of graduates?

5. Does the educational content of Herat University affect the degree of independence of graduates?

6. Does the educational content of Herat University affect the level of risk-taking of graduates?

7. Do Herat University professors have a role in the level of creativity and innovation of graduates?

8. Do Herat University professors have a role in the degree of independence of graduates?

9. Do Herat University professors affect the entrepreneurship of graduates?

Hypotheses

Main Hypothesis: It seems that Herat University has an impact on the entrepreneurship of graduates.

Sub-hypotheses

1. The structure of Herat University has a role in the level of creativity and innovation of graduates.

2. The structure of Herat University has a role in the degree of independence of graduates.

3. The structure of Herat University has a role in the degree of risk-taking of graduates.

4. Educational content of Herat University has a role on the level of creativity and innovation of graduates.

5. The educational content of Herat University has a role in the degree of independence of graduates.

6. Educational content of Herat University has a role on the level of risk-taking of graduates.

7. Professors of Herat University are involved in the level of creativity and innovation of graduates.

8. Herat University professors are involved in the degree of independence of graduates.

9. Professors of Herat University are involved in the risk level of graduates.

Introducing variables

In this research the independent variable (Herat University) and the dependent variable entrepreneurship.

The independent variable itself has three components, which are: university structure, content and professors.

Background Research

The research background consists of two parts. The first part is internal research and the second part is external research, each of which is summarized in Tables (1) and (2).

Table 1: Internal research

S#	Name	Title	Year	Location	Findings
1	Sunita Hossein zadeh	Investigating the Relationship between Entrepreneurial Skills of Managers and Organizational Effectiveness in Herat University	2015	Herat University, Faculty of Administration and Public Policy	The more entrepreneurial skills are worked on at the university, the higher the organizational effectiveness of the institution will be.
2	Muhammad Reza Hassnzadeh	Investigating the Impact of Organizational Structure on Organizational Entrepreneurship in Herat Municipality	2015	Herat University, Faculty of Administration and Public Policy	According to the research results, it was found that there is a significant relationship between organizational structure and entrepreneurship.
3	Khadijeh Mukhrazadeh	Designing a model for internal and external evaluation - within the university departments of Herat University (Faculty of Economics)	2011	University of Herat, Faculty of Economics	The results obtained from the internal and external evaluation of the Faculty of Economics show that there is a difference between the current and the desired situation. Therefore, the minimum impact of the implementation of this plan in the Faculty of Economics was that, not only did the policy makers and decision makers of the university and the Quality Assurance Committee realize the problems facing this faculty and hear its voice, but also led to a kind of self-awareness among faculty members. Has been.

As can be seen in Table (1), the research of Sunita Hosseinzadeh, a student of the Faculty of Management and Public Policy entitled (Study of the relationship between entrepreneurial skills of managers and organizational effectiveness) at Herat University in 2015, the results show that working on entrepreneurial skills at the university will increase the organizational effectiveness of

the institution. Mohammad Reza Hassanzadeh, a student of the Faculty of Administration and Public Policy, conducted a research in 2015 under the title (Investigating the Impact of Organizational Structure on Organizational Entrepreneurship in Herat Municipality). Research has shown that there is a significant relationship between organizational structure and entrepreneurship. Khadijeh Mokhtarzadeh conducted a study entitled (Designing a Model for Internal and External-in-University Evaluation of University Departments in the Faculty of Economics of Herat University) in 2011. The results show that the internal and external evaluation of the Faculty of Economics shows there is a difference between the current and the desired situation. Therefore, the minimal impact of this project on the Faculty of Economics was that it made not only the policy makers and decision makers of the university and the Quality Assurance Committee realize the problems facing this faculty and hear its voice, but also led to a kind of self-awareness among faculty members. Has been.

Table 2: External research

S#	Name	Title	Year	Location	Finding
1	Yunga and Noray's	Investigating the characteristics of entrepreneurship among students of Turkish universities	2000	Istanbul University, Turkey	Students who showed a desire to start an independent business scored higher on all aspects of entrepreneurship except for tolerating ambiguity and self-confidence. However, only 18% of students showed a desire to become an entrepreneur.
2	Haidar Ahmadi and Maryam Omidi Najafabadi	Assessing the status of university education to promote entrepreneurship	2009	Iran, Faculty of Agriculture and Natural Resources, Islamic Azad University, Science and Research Branch, Tehran	Most students do not consider the current university education, the education provided by the professors, as well as the current educational content of the university to be suitable for promoting entrepreneurship.
3	Haidar Ahmadi and Maryam Omidi Najafabadi and Seyed Jamal Farahollah Hosseini	Identifying some factors associated with promoting entrepreneurship among graduate students of the Faculty of Agriculture and Natural Resources	2009	Iran, Faculty of Agriculture and Natural Resources, Islamic Azad University, Science and Research Branch, Tehran	Among the entrepreneurial characteristics of students, the characteristics of success and creativity, innovation and independence have a significant relationship with the variable of promoting entrepreneurship in the university.

Table 2 shows that Yunga and Noray's 2000 study at Istanbul University in Turkey entitled "Study of Entrepreneurial Characteristics among Turkish University Students" found that students who wanted to start an independent business However, only 18% of the students showed a desire to become an entrepreneur. Another study entitled (Study of the state of university education to promote entrepreneurship in 2009 by Haidar Ahmadi and Maryam Omidi Najafabadi in the Faculty of Agriculture of the Islamic Azad University of Tehran was conducted, the result is that most students of current university education, training provided by professors and Also, the current educational content of the university is not considered suitable for promoting entrepreneurship. Another study entitled (Identification of some factors associated with the promotion of entrepreneurship among graduate students of the Faculty of Agriculture and Natural Resources in 2009 by Haidar Ahmadi and

Maryam Omidi Najafabadi and Seyed Jamal Farahollah Hosseini The result of this research is that among the entrepreneurial characteristics of students, the characteristics of success and creativity, innovation and independence are significantly related to the variable of promoting entrepreneurship in the university, was conducted in the Faculty of Agriculture, Islamic Azad University of Tehran.

Research Method

This research is quantitative in terms of method, correlation, in terms of practical purpose and in terms of data collection.

This research was conducted at Herat University. The statistical population of this research is 1496 graduates of engineering faculties, computer science, and economics of Herat University in 2014, 2015, 2016. There are 527 graduates of the Faculty of Engineering, 298 of the graduates of the Faculty of Computer Science and 671 of the graduates of the Faculty of Economics. Has been selected and because the statistical population is large, stratified sampling was used. The statistical population of this research is the graduates of six faculties in three years; because 1496 students have graduated from Herat University in the last three years, it is very difficult to distribute the questionnaire to everyone; therefore, the sample size is determined through the Cochran sample size formula from 1496 students. This formula allows us to research with 5% error and 95% confidence to select the sample size. A questionnaire was used to collect information. Because the statistical population of this study is graduates and it was not possible to access all the statistical samples in person; therefore, the questionnaire in this research was distributed online through social pages and cyberspace. In this research, SPSS program was used to analyze the data and Excel program was used to draw graphs, shapes and graphs. To answer the research questions and hypotheses, they were analyzed through Pearson correlation test to examine the relationship and regression to examine the impact.

Descriptive statistics related to demographic

The results of population questions that are presented in the personal characteristics in the questionnaire are shown in the tables below.

Gender

Table 3: Gender

Gender	Number	Percentage
Male	126	48.5%
Female	134	% 51.5
Total	260	100%

As can be seen in Table (3), questionnaires were distributed to 305 graduates of Herat University and 260 questionnaires were obtained from them, of which 126 (48.5%) of the respondents were men and 134 (51.5). %) The other body is made up of 260 women.

Education degree

Table 4: Degree

Level of education	Number	Percentage
BA 83.5%	217	83.5%
MA 15.8%	41	15.8%
PhD 0.8%	2	0.8%
Total 100%	260	100%

According to Table (4) in the target population are 217 (83.5%) undergraduate respondents, 41 (15.8%) masters and 2 (0.8%) doctoral students.**Field of Study**

Table 5: Field of study

Field of study	Number	Percentage
Engineering	80	30.8%
Computer science	81	31.2%
Economics	99	38.1%
Total	260	100%

According to Table (5) in the target population 80 (30.8%) of the respondents graduated in engineering, 81 (31.2%) in computer science and 99 (38.1%) in economics.

Graduation year of university

Table 6: Graduation year of university

Year graduation	Number	Percentage
2014	89	34.2%
2015	87	33.5%
2016	84	32.3%
Total	260	100%

According to Table (6) in the target population 89 (34.2%) of the respondents have a leisure year of 2014, 87 (33.5%) of the year of their leisure is 2015 and 84 (32.3%) of their leisure year is 2016 is.

Inferential analysis (testing of research hypotheses): In this section, we intend to examine the degree of relationships and the impact of each of the components of the role of the university and entrepreneurship, using the theories of engineering graduates, computer science economics, to test

the validity of research hypotheses.

Sub-hypotheses:

Sub-hypothesis 1: There is a relationship between the structure of Herat University and the level of creativity and innovation of graduates. Table (7)

Creativity and innovation	Correlation coefficient between the structure of Herat University and the level of creativity and innovation of graduates	
**262,	The correlation coefficient	
,001	Significance level	University structure
305	Sample size	

Correlation between university structure and creativity and innovation

Creativity and innovation	Correlation coefficient between the structure of Herat University and the level of creativity and innovation of graduates	
**262,	The correlation coefficient	
,000	Significance level	University stricture
305	Sample size	

As can be seen in Table No. (7), there is a relationship between the structure of Herat University and the creativity and innovation of graduates. This relationship is positive and is 262. This indicates a positive and relatively weak relationship. Also, a significant level of 000 has been obtained. According to the research sub-hypothesis (there is a relationship between the structure of Herat University and the level of creativity and innovation of graduates) with a confidence factor of 99% and an error value of 001. %. Second sub-hypothesis: There is a relationship between the structure of Herat University and the degree of independence of graduates.

Second sub-hypothesis: There is a relationship between the structure of Herat University and the degree of independence of graduates. Table (8) Correlation between university structure and independence

Table (8) Correlation between university structure and independence

Independence	Correlation coefficient between the structure of Herat University and the degree of independence of graduates	
**229,	The correlation coefficient	
,000	Significance level	University structure
305	Sample size	

As can be seen in Table (8), there is a relationship between the structure of Herat University and the degree of independence of graduates. This relationship is positive and amounts to 229. which indicates a relatively weak relationship. Also a significant level of 000. According to the sub-hypothesis of the research (there is a relationship between the structure of Herat University and the degree of independence of graduates) with a confidence factor of 99% and an error value of 0.01. Percent is confirmed.

Third sub-hypothesis: There is a relationship between the structure of Herat University and the degree of risk-taking of graduates. Table (9) Correlation between university structure and risk-taking

Correlation coefficient between the structure of Herat University and the degree of risk-taking of graduates Risk-taking of the structure of the university Correlation coefficient ** 205, significance level 1, 00 Sample size 305 : As it can be seen there is a relationship between the structure of Herat University and the degree of risk-taking of graduates. This relationship is positive and is 205. Which indicates a relatively weak relationship? Also a significant level of 001. According to the research sub-hypothesis (there is a relationship between the structure of Herat University and the degree of risk-taking of graduates) with a confidence factor of 99% and an error value of 0.01. Percent is confirmed.

Fourth sub-hypothesis: There is a relationship between the educational content of Herat University and the level of creativity of graduates.

Correlation between university educational content and creativity

As can seem in Table No. (11), there is a relationship between the educational content of Herat University and the level of creativity and innovation of graduates. This relationship is positive and is equal to 197. This indicates a relatively weak relationship. Also a significant level of 001. According to the research sub-hypothesis (there is a relationship between the educational content of Herat University and the creativity and innovation of graduates) with a reliability of 99% and an error value of 0.01. Percent is confirmed.

Fifth Sub-Hypothesis: There is a relationship between the educational content of Herat University and the degree of independence of graduates. Table (11) Correlation between university educational content and the degree of independence

Creativity & inno-vation	Correlation coefficient between educational content of Herat University and the level of creativity and innovation of graduates	
**197,	The correlation coefficient	University Content
1,00	Significance level	
305	Sample size	

It can be seen in Table no. (11), there is a relationship between the educational content of Herat University and the degree of independence of graduates. The correlation coefficient is 167.. Also a significant level of 007. According to the sub-hypothesis of the research (there is a relationship between the educational content of Herat University and the degree of independence of graduates)

with a 99% confidence factor and an error rate of 0.07. Percent is confirmed.

Sub-hypothesis 6: There is a relationship between the educational content of Herat University and the degree of risk-taking of graduates.

Table (12) Correlation between university educational content and risk level

Independence	Correlation coefficient between educational content of Herat University and the degree of independence of graduates	
**167,	The correlation coefficient	
7,00	Significance level	University Content
305	Sample size	

Independence	Correlation coefficient between Herat University professors and the degree of independence of graduates	
*139,	The correlation coefficient	
2,0	Significance level	Professors of Herat University
305	Sample size	

As can be seen in Table No. (12), there is a relationship between the educational content of Herat University and the level of risk-taking of graduates. The correlation coefficient is 171. Also a significant level of 006. According to the research sub-hypothesis (there is a relationship between the educational content of Herat University and the degree of risk-taking of graduates) with a confidence factor of 99% and an error rate of 0.06. Percent is confirmed

Risk taking	Correlation coefficient between educational content of Herat University and graduates' risk level	
.171**	The correlation coefficient	
6,00	Significance level	University Content
305	Sample size	

Seventh Sub-Hypothesis: There is a relationship between Herat University professors and the level of creativity of graduates.

Table (13) Correlation between university professors and the level of creativity

As can be seen in Table (13), there is no relationship between Herat University professors and the level of creativity of graduates. The correlation coefficient is 116. Also, a significant level is 063. According to the research sub-hypothesis (among university professors) Herat and the degree of independence of graduates is related to the amount of error 063 ٪. Percent is rejected.

Creativity	Correlation coefficient between professors of Herat University and the level of creativity of graduates	
116,	The correlation coefficient	
63,0	Significance level	University professors
305	Sample size	

Sub-Hypothesis 8: There is a relationship between Herat University professors and the degree of independence of graduates.

Table (14) Correlation between university professors and the degree of independence

Correlation coefficient between Herat University professors and the degree of independence of independence graduates

Herat University professors correlation coefficient * 139,

Significance level 2.0

Sample size 305

As can be seen in Table no. (14), there is a relationship between the professors of Herat University and the degree of independence of the graduates. This relationship is positive and is 139. which indicates a relatively weak relationship. Also, a significant level of 02. has been obtained based on the sub-hypothesis of the research (there is a relationship between Herat University professors and the degree of independence of graduates) with a 95% confidence interval and an error rate of 02.. Percent is confirmed.

Sub-Hypothesis 9: There is a relationship between Herat University professors and graduates' risk level.

Table (15) Correlation between university professors and risk level

As it can be seen in Table no. (15), there is a relationship between Herat University professors and graduates' risk level. This relationship is positive and amounts to 192. This indicates a relatively weak relationship. Also a significant level of 002. According to the research sub-hypothesis (there is a relationship between Herat University professors and students' risk level), it is confirmed with a confidence factor of 99% and an error rate of 0.02%.

Main research hypothesis: There is a relationship between Herat University and the degree of entrepreneurship of graduates.

Entrepreneurship	Correlation coefficient between Herat University and the degree of entrepreneurship of graduates	
**297,	The correlation coefficient	
0,00	Significance level	Heart University
305	Sample size	

As can be seen in Table No. (16), there is a relationship between Herat University and the entrepreneurship rate of graduates. This relationship is positive and amounts to 297. Which indicates a relatively weak relationship? Also a significant level of 000. It is obtained according to the main research hypothesis (there is a relationship between Herat University and the degree of entrepreneurship of graduates) or 99% confidence interval and error value of 0.01. Percent is confirmed

The role of Herat University

After examining the relationship between the independent variable and the dependent variable through the test of sub-hypotheses and the main hypothesis, we will examine the role of Herat University on the entrepreneurship of graduates.

Research sub-hypotheses

Sub-hypothesis 1: The structure of Herat University has a role on the level of creativity and innovation of graduates.

Table (17) summarizes the regression model of structure and creativity and innovation

Sig	R^2	R	Model
.000	.069	.262[a]	1

Table No. (17) Describes the model. R indicates the level of relationship between the components of the truth (examining the role of Herat University on the entrepreneurship of graduates), which indicates a positive relationship of 262. R^2 indicates the extent to which the dependent variable changes. Explained by an independent variable. As can be seen in the table, R^2 is obtained at 069. That is, relative to 069. The changes of the dependent variable are described by the regression model.

Table (18) Structure regression coefficient and creativity and innovation

Sig	T	Not standardized coefficients		Not standardized coefficients		Model
		B		Standard error	B	

Sig	T	Standardized coefficients B	Standard error	B	Model
.000	17.773		.187	3.326	Fixed
.000	4.369	.262	.051	.225	Structure

As can be seen in Table (18), β is obtained at a value of 225, ie. by increasing the quality of the structure of Herat University by 225 units; a change in the dependent variable will take place. In this study, the creativity of Herat University graduates will increase to 522 units if the quality of the structure of Herat University increases by 1 unit, which means a strong but weak effect. This analysis with an error value of 001. And 99% reliability is confirmed.

Second sub-hypothesis: The structure of Herat University has a role in the degree of independence of graduates. Table (19) summarizes the regression model of students' structure and independence

Sig	R^2	R	Model
.000	.053	.229[a]	1

Table No. (19) Shows the model description. R indicates the level of relationship between the sub-components of the research (examining the role of Herat University on the entrepreneurship of graduates) which shows a positive relationship of 229. R indicates that up to how much change in the dependent variable are described by the independent variable. As can be seen in the table, R^2 is obtained as a value of 053. That is, as a relative of 053. The changes of the dependent variable are described by the regression model.

Table (20) Structure regression coefficient and independence

Sig	T	Standardized coefficients	Not standardized coefficients		Model
		B	Standard error	B	
.000	17.817		90.1	3.326	Fixed
.000	3.786	.229	2.05	198.	Structure

As can be seen in Table (4-20), β is obtained at a value of 89.1, ie with an increase of 1 unit in the quality of the structure of Herat University to a value of 198 units; there will be a change in the dependent variable. In this study, the independence of Herat University graduates will increase to 198 units if the quality of the structure of Herat University is increased by 1 unit, which means a strong but weak effect. This analysis with an error value of 001. And 99% reliability is confirmed.

Third sub-hypothesis: The structure of Herat University plays a role in the degree of risk-taking of graduates. Table (21) summarizes the structure regression model and risk-taking

Sig	R^2	R	Model
.001	.042	.205[a]	1

Table No. (21) describes the model. R indicates the level of relationship between the research subcomponent (examining the role of Hurt University on graduate entrepreneurship), which indicates a positive relationship of 205. R^2 indicates that up to how much change in the dependent variable are described by the independent variable. As can be seen in the table, R^2 is obtained at 042. That is, relative to 042. The changes of the dependent variable are described by the regression model.

Table (22) Structure regression coefficient and risk-taking

Sig	T	standardized coefficients	Not standardized coefficients		Model
		B	Standard error	B	
.000	17.770		92.1	3.419	Fixed
1.00	3.357	205.	3.05	178.	Structure

As can be seen in Table (22), β has a value of .178, ie by increasing the quality of the structure of Herat University by .178 units, there will be a change in the dependent variable. In this study, the risk-taking of Herat University graduates will increase to 178 units if the quality of the structure of Herat University increases by 1 unit, which means a positive but weak effect. This analysis is confirmed with an error value of 0.01 and a confidence interval of 99... **Fourth sub-hypothesis**: The educational content of Herat University has a role on the level of creativity and innovation of graduates. Table (23) Summary of educational content regression model and creativity and innovation

Sig	R^2	R	Model
.000	39.0	.197[a]	1

Table No. (23) describes the model. R indicates the level of relationship between the research sub-component (examining the role of Herat University on the entrepreneurship of graduates), which indicates a positive relationship of 197. R^2 indicates that up to how much change in the dependent variable are described by the independent variable. As can be seen in the table, R^2 is obtained as a value of 039. That is, it is a relative value of 039. The dependent variable changes are described by the regression model.

Table (24) Educational content regression coefficient and creativity and innovation

t	Sig	standardized coefficients	Not standardized coefficients		Model
		B	Standardized error	B	
21.493	.000		67.1	3.600	Fixed
3.234	1.00	197.	48.0	155.	Educational content

As can be seen in Table (24), β is obtained at a value of 551. That is, by increasing the quality

of educational content at Herat University by 551. The unit of change will be in the dependent variable. In this study, the creativity of Herat University graduates will increase to 551. If the quality of educational content of Herat University increases by 1 unit, it indicates a positive but weak effect. This analysis with an error value of 001. And 99% reliability is confirmed.

Sub-hypothesis 5: The educational content of Herat University has a role on the degree of independence of graduates. Table (25) summarizes the model of educational content regression and independence

Sig	R^2	R	Model
7.00	28.0	.167ª	1

Table No. (25) Describes the model. R indicates the level of relationship between the research sub-component (examining the role of Herat University on the entrepreneurship of graduates), which indicates a positive relationship of 167. R^2 indicates that up to how much change in the dependent variable are described by the independent variable. As can be seen in the table, R^2 is obtained with a value of 028. That is, relative to .028 the changes of the dependent variable are described by the regression model.

Table (26) Regression coefficient of educational content and independence

Sig	T	standardized coefficients		Not standardized coefficients		Model
		B		Standardized error	B	
.000	21.471		.167	70.1	3.648	Fixed Educational content
7.00	2.726			49.0	133.	

As shown in Table (26) β is worth 133. It has been obtained by increasing the quality of educational content of Herat University by 1 unit to 133. The unit of change will be in the dependent variable. In this study, the independence of Herat University graduates if 131 units of quality of educational content of Herat University are increased to 133. The unit will increase, indicating a modest but weak effect. This analysis with an error value of 007. And 99% reliability is confirmed.

Sixth sub-hypothesis: The educational content of Herat University has a role on the level of risk-taking of graduates. Table (27) Summary of educational content regression model and risk-taking

Sig	R^2	R	Model
6.00	29.0	.171ª	1

Table No. (27) describes the model. R indicates the level of relationship between the research sub-component (examining the role of Herat University on the entrepreneurship of graduates), which indicates a positive relationship of 171. R^2 indicates that up to how much change in the dependent

variable are described by the independent variable. As can be seen in the table, R² is obtained with a value of 029. That is, relative to 029. The changes of the dependent variable are described by the regression model.

Table (28-4) Regression content of educational content and risk-taking

Sig	T	standardized coefficients	Not standardized coefficients		Model
		B	Standardized error	B	
.000	21.033		71.1	3.588	Fixed
6.00	2.794	.171	49.0	136.	Educational content

As shown in Table (28) β with a value of 136. It has been obtained by increasing the quality of educational content of Herat University by 136 units by 136. The unit of change will be in the dependent variable. In this study, the risk of Herat University graduates if the quality of educational content of Herat University increases by 136 units. The unit will increase, indicating a modest but weak effect. This analysis is confirmed with an error value of .006 and a reliability of 99%.

Seventh Sub-Hypothesis: Herat University professors are involved in students' creativity and innovation.

Table (29) summarizes the regression model of professors and creativity and innovation

Sig	R²	R	Model
6.0	13.0	.116[a]	1

Table No. (4-29) describes the model. R indicates the level of relationship between tTable No. (29) Describes the model. R indicates the level of relationship between the research sub-components (examining the role of Herat University on the how much change in the dependent variable are described by the independent variable. As can be seen in the table, R² is obtained with a value of 013. That is, relative to 013. The changes of the dependent variable are described by the regression model.

Table (30-4) Teacher regression coefficient and creativity and innovation

Sig	T	standardized coefficients	Not standardized coefficients		Model
		B	Standardized error	B	
.000	20.594		84.1	3.790	Fixed
6.0	1.869	.116	53.0	099.	Professors

As shown in Table (30) β with a value of 099. It is obtained by increasing the quality of education of Herat University professors by 099. The unit of change will be in the dependent variable. In this study, the level of creativity of Herat University graduates if the quality of education of Herat University professors increases by 099. The unit will increase, indicating a modest but weak effect. This analysis is done with an error value of 0.6.

Hypothesis 8: Herat University professors have a role in the degree of independence of graduates. Table (31) summarizes the regression model of professors and independence

Sig	R^2	R	Model
.02	19.0	.139[a]	1

Table No. (31) shows the model description. R indicates the level of relationship between the research sub-component (examining the role of Herat University on the rate of entrepreneurship in Herat province) which shows a positive relationship of 139. R^2 indicates that to what extent changes in the dependent variable are described by the independent variable. As can be seen in the table, R^2 is obtained with a value of 019. That is, it is relatively 019. The changes of the dependent variable are described by the regression model. Table (32) Teacher regression coefficient and independence seeking

Sig	T	standardized coefficients	Not standardized coefficients		Model
		B	Standardized error	B	
.000	19.946		85.1	3.692	Fixed
2.0	2.249	.139	53.0	120.	professors

As shown in Table (32) β is worth 120. It has been obtained by increasing the quality of education of Herat University professors by 120 units by 120. The unit of change will be in the dependent variable. In this study, the degree of independence of Herat University graduates if the quality of education of Herat University professors increases by 120 units. The unit will increase, indicating a modest but weak effect. This analysis with an error value of 02. And 95% confidence is confirmed. Ninth sub-hypothesis: Herat University professors are involved in students' risk-taking. Table (33-4) Summary of the professor regression model and risk-taking

Sig	R^2	R	Model
.002	37.0	.192[a]	1

Table (33) describes the model. R indicates the level of relationship between the research sub-component (study of the role of Herat University on the entrepreneurship of graduates, which shows a positive relationship of 192. R^2 indicates how much The rate of change of the dependent variable is explained by the independent variable, as shown in the table, R^2 is obtained by the value 013. That is, relative to 013. The changes of the dependent variable are described by the regression model.

Table (34) Teacher regression coefficient and risk-taking

Sig	T	standardized coefficients	Not standardized coefficients		Model
		B	Standardized error	B	
.000	18.917		84.1	3.486	Fixed
02.0	3.142	.192	53.0	171.	Professors

As shown in Table (34) β is worth 171. It has been obtained by increasing the quality of education of Herat University professors by 171 units by 171. The unit of change will be in the dependent variable. In this study, the risk level of Herat University graduates if the quality of education of Herat University professors increases by 171. The unit will increase, indicating a modest but weak effect. This analysis has an error value of 0.02. And 99% reliability is confirmed.

Main Hypothesis: Herat University has a role in the degree of entrepreneurship of graduates. Table (35) Summary of Herat University Regression Model and Entrepreneurship

Sig	R^2	R	Model
.000	.088	.297[a]	1

Table No. (35) describes the model. R indicates the level of relationship between the main component of the research (examining the role of Herat University on the entrepreneurship of graduates), which indicates a positive relationship of 297. R^2 indicates that up to how much change in the dependent variable are described by the independent variable. As can be seen in the table, R^2 is obtained with a value of 088. That is, it is relatively 088. The changes of the dependent variable are described by the regression model. Table (36) University Regression Coefficient and Entrepreneurship

Sig	T	standardized coefficients	Not standardized coefficients		Model
		B	Standardized error	B	
.000	17.613		82.1	3.200	Fixed
00.0	4.989	.297	51.0	256.	Heart University

As shown in Table (36) β is a value of 256. It has been obtained by increasing the quality of Herat University by 256 units by 256. The unit of change will be in the dependent variable. In this study, the entrepreneurship rate of graduates if 1 quality unit of Herat University increases to 256. The unit will increase, indicating a modest but weak effect. This analysis has an error value of 0.01. And 99% reliability is confirmed.

Result

As a result of field research conducted on a statistical sample of (305) graduates of engineering, computer science and economics during 2014, 2015, 2016, the correlation between the structure of Herat University and the level of creativity and innovation of graduates and R = 262. Regression 225 B =. With a 99% confidence interval, which indicates that the structure of Herat University has a role on the creativity and innovation of graduates?

As a result of field research conducted on a statistical sample of (305) graduates of engineering, computer science and economics during 2014, 2015, 2016, the correlation between the structure of Herat University and the degree of independence of graduates R = .229 and regression coefficient B = .198 with a confidence level of 99%, which indicates that the structure of Herat University has a role in the degree of independence of graduates.

As a result of field research conducted on a statistical sample of (305) graduates of engineering, computer science and economics during 2014, 2015, 2016, the correlation between the structure of Herat University and graduates' risk-taking was R = .205 and regression coefficient. B = .178 with a 99% confidence interval which indicates that the structure of Herat University has a role in the risk of graduates.

As a result of field research conducted on a statistical sample of (305) graduates of engineering, computer science and economics during 2014, 2015, 2016, the correlation between the educational content of Herat University and the level of creativity and innovation of graduates R = .197 and The regression coefficient is B = .155 with a confidence coefficient of 99%, which indicates that the educational content of Herat University has a role on the level of creativity and innovation of graduates.

As a result of field research conducted on a statistical sample of (305) graduates of engineering, computer science and economics during 2014, 2015, 2016, the correlation between the educational content of Herat University and the degree of independence of graduates R = .167 and The regression coefficient is B = .133 with a confidence coefficient of 99%, which indicates that the educational content of Herat University has a role in the degree of independence of graduates.

As a result of field research conducted on a statistical sample of (305) graduates of engineering, computer science and economics during 2014, 2015, 2016, the correlation between the educational content of Herat University and the degree of risk-taking of graduates is R = .171 and coefficient Regression is B = .136 with a 99% confidence interval which indicates that the educational content of Herat University has a role in the risk-taking of graduates.

As a result of field research conducted on a statistical sample of (305) graduates of engineering, computer science and economics during 2014, 2015, 2016, the degree of correlation between Herat University professors and the degree of creativity and innovation of graduates R = .116 and coefficient Regression is B = .099 with an error value of .06, which indicates that Herat University professors do not play a role in the degree of creativity and innovation of graduates.

As a result of field research conducted on a statistical sample of (305) graduates of engineering, computer science and economics during 2014, 2015, 2016, the degree of correlation between Herat University professors and the degree of independence of graduates R = .139 and regression coefficient B = .120 with 95% confidence that indicates that the professors of Herat University have a role in the degree of independence of graduates.

As a result of field research, a statistical sample of (305) graduates of engineering, computer science

and economics during 1393, 1394, 1395 was conducted. B = .171 with a confidence interval that indicates that the professors of Herat University have a role in the degree of risk-taking of graduates.

In conclusion, the general hypothesis is as follows:

As a result of field research conducted on a statistical sample of (305) graduates of engineering, computer science and economics during 2014, 2015, 2016, the correlation between Herat University and the entrepreneurship of graduates is R = 297. And regression coefficient B 256. With a 99% confidence interval, which indicates that the professors of Herat University have a role in the degree of risk-taking of graduates.

Discussion

There has not been much research on this issue in Afghanistan, especially in Herat, but research related to the following research has been conducted in Herat province. Research by Sunita Hosseinzadeh, Faculty of Public Administration and Public Policy, entitled (Study of the relationship between entrepreneurial skills of managers and organizational effectiveness in Herat University) in 2015. The result of its research is that the more entrepreneurial skills are worked on in the university, the more the organizational effectiveness in this institution will increase. The result of this research is similar to the present research. The next study was conducted by Mohammad Reza Hassanzadeh, a student of the Faculty of Management and Public Policy, on (the study of the impact of organizational structure on organizational entrepreneurship in Herat Municipality) in 2015. According to the results of the study, the relationship between organizational structure and entrepreneurship there is a meaningful relationship achieved. The result of this research is one component similar to the present research. In 2011, Khadijeh Mokhtarzadeh conducted a study entitled (Designing a Model for Internal and External-In-University Evaluation of University Departments) at the Faculty of Economics, Herat University, which concluded that the results of internal and external evaluation of the Faculty of Economics show that there is a difference between the present and the desired situation. Therefore, the least impact of the implementation of this plan in the Faculty of Economics was that, it caused not only policy makers and decision makers of the university and the Quality Assurance Committee to realize the problems facing this faculty and hear its voice, but also led to a kind of self-awareness among faculty members. The result of this research in the field of quality educational content is similar to the present research.

Foreign research in this area, including a 2000 study by Yonga and Nora at Istanbul University in Turkey entitled "Study of Entrepreneurial Characteristics among Turkish University Students", found that students who wanted to start an independent business they had higher scores in all aspects of entrepreneurship except for tolerating ambiguity and self-confidence. However, only 18% of students showed a desire to become an entrepreneur. The result of the following research in the field of entrepreneurial characteristics is similar to the present research. Another study entitled (Assessing the status of university education to promote entrepreneurship) was conducted in 2009 by Haidar Ahmadi and Maryam Omidi Najafabadi at the Faculty of Agriculture, Islamic Azad University of Tehran. The result is that most students of current university education, training provided by professors and they also do not consider the current educational content of the university to be suitable for promoting entrepreneurship. The result of the following research is similar to the present research in the quality of educational content and the teaching method of professors. Another study entitled Identifying some factors related to the promotion of entrepreneurship among graduate students of the Faculty of Agriculture and Natural Resources in 2009 by Haidar Ahmadi and Maryam

Omidi Najafabadi and Seyed Jamal Farahollah Hosseini in the Agricultural University of Islamic Azad University of Tehran was conducted. Among the entrepreneurial characteristics of students, the characteristics of success and creativity, innovation and independence are significantly related to the variable of promoting entrepreneurship in the university. The result of this research in the field of entrepreneurship characteristics is similar to the present research.

Conclusion

As a result, it can be summarized that:

The structure of Herat University affects the level of creativity and innovation of graduates;

The structure of Herat University plays a role in the degree of independence of students;

The structure of Herat University plays a role in the degree of risk-taking of graduates;

Educational content of Herat University has a role on the level of creativity and innovation of graduates;

The educational content of Herat University plays a role in the degree of independence of graduates;

Educational content of Herat University has a role in the risk-taking of graduates;

Herat University professors have no role in the level of creativity and innovation of graduates;

Herat University professors are involved in the degree of independence of graduates; And

Herat University professors are involved in the degree of risk-taking of graduates.

Recommendations

1. Future researchers to conduct this research elsewhere;

2. Future researchers choose other disciplines for case study;

3. Investigating the role of Herat University policies on entrepreneurship in Herat province; And

4. Investigating the role of Herat University strategic plan on the level of entrepreneurship in Herat province.

Suggestions for the organization under study

1. Increasing the quality of educational content;

2. Use of modern teaching methods;

3. Paying attention to the structure of the university;

4. Increasing the quality of teachers' teaching methods; and

5. Adding a sample of a course called Entrepreneurship Education in various fields.

References

1. Ahmad Pourdariani, Mahmoud and Azizi, Mohammad. (2006) Entrepreneurship. Publishing the pen altar.

2. Parhizar, Mohammad Mahdavi and Qajani, Ali Akbar. (1991). Advanced research methodology in management with an applied approach. Tehran: Payam Noor.

3. Hosseini, Ali Shah. (2004). Entrepreneurship. Tehran: Ayizh Publications.

4. Sarmidi, Venus; Barzan, Abbas and Hejazi, Goddess. (2006). Research Methods in Behavioral Sciences. Tehran: Ah Publications.

5. Grace. Seyed Ali Reza and Taghi Yari, Mohammad Reza. (2000). Entrepreneurship. Tehran: Scientific Publications.

6. Mehrabi, Ebrahim and Tabraei, Mohsen. (2004). Contemporary approach to entrepreneurship. Tehran: Ferdowsi Publications.

7. Hezra Jaribi, Jafar. (2004). Entrepreneurship. Tehran: Economic Affairs Research Institute Publishing.

Articles

1. Behnam, Morteza. (2016). The role of self-directed learning model in the development of entrepreneurship from the perspective of educators of applied science centers in West Azerbaijan province. Journal of Agricultural Extension and Education Research, Year 9, No. 2, p

2. Peykifar, Fatemeh. (2012). Investigating the role of universities in entrepreneurship development. National Conference on Entrepreneurship and Management of Knowledge-Based Businesses, p.6.

3. Taghipour, Zahir. (2006). A suitable model for creating an entrepreneurial university. Economics and Management, No. 69, p.3.

4. Heidari, Ahmad (2009). Investigating the state of university education to promote entrepreneurship. Agricultural Extension and Education Research, No. 3, Second Year, p.71.

5. Heydari, Ahmad (2009). Identifying some factors related to the promotion of entrepreneurship among graduate students of the Faculty of Agriculture and Natural Resources of Islamic Azad University. Quarterly Journal of Education Leadership and Management, Third Year, No. 3, p.71.

6. Rezaei, Mohammad Hassan. (2009). Investigating the entrepreneurial characteristics of students of Islamic Azad University, Darab branch. Quarterly Journal of New Approach in Educational Management, No. 4, p.46.

7. Sharifzadeh, Fattah. (2009). Designing and establishing a model of factors affecting university entrepreneurship. Entrepreneurship Development, No. 6, p.24.

8. Safarzadeh, Hossein. (2009). Investigation of effective factors on the establishment of entrepreneurial universities. Scientific Journal of Educational Technology, No. 2, p.3

9. Norouzi, Reza. (2006). Identifying barriers to university entrepreneurship and ways to strengthen it. Journal of Scientific-Research New Approach in Educational Management, No. 2, p. 1.

10. Hosseinzadeh, Sonita. (2015). Investigating the relationship between managers' effective skills and organizational effectiveness in Herat University. Thesis of the Bachelor of Public Administration and Policy, Herat University.

Internet sites

www.donya-e-eqtesad.com
www.lahzataza.blogfa
www.oloometarbiatipersian.blog.ir
www.hu.edu.af
www.mohe.gov.af