

## Strategic Analysis of Entrepreneur University of Applied Sciences and Technology in Agricultural Sector

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### ABSTRACT

Among the key strategies in higher education is to prioritize the development of the entrepreneurial university. In this regard, the University of Applied Sciences and Technology (UAST) is one of the main institutions involved in vocational higher education, especially in the agricultural sector, which aims to help graduates acquire the knowledge and skills they will require. To this end, the university needs to plan for and develop entrepreneurial educations in its training system. Accordingly, the present study aimed to strategically analyze entrepreneur UAST in the agricultural sector. The statistical sample included 19 individuals, who were presidents, deputies, and managers of a university or managers of agricultural applied science and technology centers. After interviews and reaching theoretical saturation, the strengths, weaknesses, threats, and opportunities of the agricultural applied sciences and technology centers were specified. The results of the SWOT matrix show that the aggressive strategy (SO) is the most appropriate strategy for the agricultural centers of UAST. The most important strategies within this approach included 'organizing and developing agricultural applied sciences and technology programs in a balanced manner'; 'designing and implementing a province-wide educational need assessment model for the agricultural sector'; 'developing agricultural modular curricula and getting involved in new labor market potentials with the aid of the executive agencies'; 'enhancing the quality of agricultural training components'; 'developing financial resources and the use of the existing potentials of the agricultural sector with no financial burden on the government'; 'basing decisions on research'; and 'setting policies based on the modern agricultural and natural resources' technology'.

**Keywords:** Agricultural Higher Education. Entrepreneurship, Startegic planning, SWOT analysis, University of Applied Sciences and Technology.

### INTRODUCTION

The main goal of development in most countries is to reduce unemployment and boost occupational activities. Today, the issue of unemployment is not merely a matter of economy or confined to a specific country, rather, most countries are generally struggling with the challenge of unemployment (Heidari Mokarrar and Mohebi, 2012). Unemployment is an obstacle hindering the development of developing countries, a major socioeconomic challenge, and one of the most important threats to national security

and development (Rezaei *et al.*, 2012). Moreover, the increasing importance of nurturing creative and entrepreneurial human resources as well as the commitment of universities and higher education centers in this regard have made universities pay due attention to the concept of entrepreneurship during the last quarter of the twentieth century (Fallah Haghighi *et al.*, 2018a; Hadizadeh Moghaddam and Rahimi Filabadi, 2005). In this context, educating those to whom the future belongs means providing them with solid knowledge and entrepreneurial skills for coping with future challenges and generating ideas and

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innovations to build a better world. This again requires an entrepreneurial approach. Thus, for university to remain relevant and useful as a form of organization, it needs to respond and adapt. This requires a change in the mindset and tenets of the management and government of universities. This calls for restructuring of universities. Therefore, the question for higher education and university system is not whether, but how to cope with these changes, which characterizes the modern and emerging economies of today (Baporikar, 2019). Similarly, in Iran, unemployment is not only one of the most important social challenges of the present days, but it will also be the utmost social challenge of the next decades given the population growth of the last two decades. Meanwhile, graduates of higher education institutes form a considerable fraction of the unemployed population (Ahmadi *et al.*, 2017). Specifically talking about agriculture-related disciplines, research shows that a remarkable part of higher education facilities and resources in Iran has been devoted to agricultural education such that a great number of agriculture-related graduates are supplied to society every year (Khoshnodifar *et al.*, 2020). Therefore, it can be said that graduates, who lack the personal capabilities and skills required for launching a proper business, are problematic in Iran. At the same time, the government and employers recruit higher education graduates based on their skills and competencies and some specific standards (Saadvandi *et al.*, 2019).

Presently, the emphasis is placed on creating and strengthening entrepreneurship in almost all countries, and various perspectives and methods have been proposed to enhance it so that any country can pick the one that is consistent with its conditions (Sobel and King, 2008). One of the best approaches to resolve this problem is to consider entrepreneurship and its training at universities (Yadollahi Farsi, 2015).

Presently, entrepreneurship training constitutes an important part of academic

curricula in industrial nations with the aim of empowering graduates to turn into founders of private-sector firms and enterprises (Abdullah Zadeh Salmasi *et al.*, 2016). As such, a university can be an entrepreneurial organization, where all members can perform their tasks with an entrepreneur role and all entrepreneurial activities are fulfilled continuously, fast, and easily in the headquarter and faculties (Sadeghi *et al.*, 2018). Assuming universities as a systematic organization accomplishing educational and research missions, universities and higher education systems should increasingly participate in innovation processes and development technologies. Entrepreneurship has seriously affected agricultural higher education like other sectors (Fallah Haghighi *et al.*, 2018 b; Moradi *et al.*, 2011).

Undoubtedly, agricultural development depends on policies, programs, and, in particular, the agricultural education system, followed by committed graduates. The development in higher agricultural education requires graduates with sufficient skills (Taatila, 2010). The development of this sector is not only achieved by injection of capital and technology, but this is a multi-dimensional process that is related to many factors. In the meantime, investment in improving and strengthening human resources in order to strengthen development of entrepreneurship is undeniable (Movahedi *et al.*, 2010). According to James (2005), applied scientific education has the key advantage of fostering specialized skills that make individuals much more competent and productive for their careers. It can be said that a goal set by UAST is to foster skillful, creative, and entrepreneurial people, who can create Businesses for themselves and others, in addition to meeting the market demand. Therefore, UAST can play the role of an entrepreneurial university and mitigate the burden of graduates' unemployment, especially in the field of agriculture for which the unemployment of graduates is one of the most important challenges of the higher education system in Iran (Ahmadpour

Daryani and Karimi, 2017). On the other hand, inadequate applied training and failure in acquiring adequate practical experience by graduates during the academic course are among the factors underpinning their unemployment (Barabadi *et al.*, 2009). Accordingly, the present research focused on the strategic analysis of entrepreneurial UAST in the agricultural sector. Therefore, to achieve the main goal of the present research, i.e. an analysis of the development of an entrepreneurial UAST in the agricultural sector, the following objectives were pursued.

- I. Studying the most important internal factors (strengths and weaknesses) of the development of an entrepreneurial UAST in the agricultural sector,
- II. Studying the most important external factors (opportunities and threats) of the development of an entrepreneurial UAST in the agricultural sector, and
- III. Studying the most important strategy for the development of an entrepreneurial UAST in the agricultural sector.

Today, academic entrepreneurship, and more importantly, entrepreneurial universities are developing at a fast pace, such that universities in developed countries are moving towards entrepreneurship, which can be a major capability for organizations and people in their encounter with socioeconomic conditions and a key mechanism to cope with these conditions. A review of the literature shows that there are different definitions of an entrepreneurial university. Movahedi and Sepahpanah (2016) define an entrepreneurial university as an attractive concept that indicates a university that creates opportunities, cultures, and useful environments to encourage the adoption of entrepreneurship by students and graduates. An entrepreneurial university considers different meanings and identities, including creativity, commercialization, new investments, and employment, and it can be perceived as an

organizational response to external challenges and pressures (Hannon, 2013). In a review paper, Rothwell *et al.* (2007) reviewed 173 research papers published in academic journals and found that the development of entrepreneurial universities is influenced by incentive systems, university's status, location, culture, mediating factors, university's policy and experience, recognition of roles and faculty personality, technology nature for commercialization, public policies, industrial climate, and regional status. Hannon (2013) reported several activities of Swansea University in the realization of an entrepreneurial university that included establishing an employability center, developing cross-campus entrepreneurship programs and courses, founding a student entrepreneurship club, providing a retraining program for the staff, creating an entrepreneurial research group to support interdisciplinary research, and supporting student start-ups and spinoffs. Behzadi *et al.* (2014) concluded that components of an entrepreneurial university model are graduate quality, publication of scientific findings, attraction of financial resources, research contracts, patents, establishment of productive businesses, establishment of science parks, entrepreneurial organizational culture, flexible organizational structure, entrepreneurial approach of teachers, macro-level management, curriculum content, and students' attributes. Bourdieu (1975) presented a model to launch entrepreneurial centers in medical universities of Sweden. It was reported that entrepreneurship is a long-term educational process that requires planning in the educational system, especially universities and higher education centers. Accordingly, the Swedish higher education system has started to implement an efficient program of launching entrepreneurial centers as the operational units of this program in the affiliate universities since 2013.

**Table 1.** The characteristics of respondents

Characteristic		Frequency	Cumulative percentage
Gender	Male	18	95
	Female	1	100
Educational level	Master's degree	1	5
	PhD. degree	18	100
Work experience	0-10 years	0	0
	11-20 years	1	5
	21-30 years	15	84
	> 30 years	3	100
Age	31-40 years	1	5
	41-50 years	6	37
	51-60 years	10	90
	> 60 years	2	100

While no consensus exists on a single definition of the entrepreneurial university, several authors have listed a number of its features (Gibb, 2013). However, there are few models that explain the entrepreneurial university's foundations and conceptual basis. There is also a paucity of empirical studies on this subject [González, 2009]. The majority of research carried out has been based on conceptual frameworks that seek to identify the features that should characterize the entrepreneurial university. For instance, O'Shea *et al.* (2004) proposed a number of factors that could bolster entrepreneurial university, namely, top-down leadership, policies that support and encourage the process of academic entrepreneurship, own funding, technological transfer offices and incubators, an entrepreneurial culture, entrepreneurial attitudes and aptitudes, access to venture capital, and infrastructures and technology clusters. Baporikar (2020) and Bezanilla *et al.* (2020) highlight the context and organizational aspects to understand the entrepreneurial university.

In Iran, UAST is among the primary organizations that are responsible for skill-based educational system, especially in the agricultural sector. UAST aims to lay the ground for its graduates to acquire the required knowledge and skills, so that the development of entrepreneurial training in

its educational system will lead to the achievement of its goals. Accordingly, if appropriate strategies for resolving the problems of entrepreneurship development at university are recognized, proper actions can be taken.

SWOT analysis is an important supporting tool for decision making and systematic analysis of the internal and external environment of an organization using opportunities, threats, strengths and weaknesses (Nikolaou *et al.*, 2011). After analyzing the internal and external environment and determining the strengths, weaknesses, opportunities, and threats using SWOT matrix, policies and suitable strategies are discussed for the better performance of UAST as the main objective of entrepreneurial university in agriculture.

## MATERIALS AND METHODS

The present study is applied in terms of its objectives and it is descriptive survey in terms of data collection method, in which the SWOT analysis was used to develop appropriate strategies for an entrepreneurial UAST in the agricultural sector. The statistical population included presidents (n= 2), deputies (n= 5), and previous and present managers (n= 5) of the university, as well as experts (n= 4), and directors (n= 3) of agricultural applied

sciences and technology centers with at least four years of management experience. The sample was selected through purposive method until reaching theoretical saturation ( $n= 19$ ). In all four sections of SWOT (strengths, weaknesses, opportunities, and threats), 98 items were extracted and divided into 59 main items, including 17 items for strengths, 19 items for weaknesses, 14 items for opportunities, and 9 items for threats. Eventually, the participants were asked to determine the importance of each item on a five-point Likert scale ranging from 5 (completely agree) to 1 (completely disagree).

### Demographic Characteristics of Respondents

Table 1 shows the demographic information of respondents. As can be seen, the majority of interviewees (95%) were male with a PhD. degree, over 20 years of work experience (90% of the population), and an age range of older than 40 years.

The Most Important Internal Factors Affecting Development of an Entrepreneurial UAST in Agricultural Sector

In SWOT analysis, the strengths and weaknesses constitute the internal factors. Analysis of the internal environment requires the sum of final coefficients of internal factors (i.e. strengths and weaknesses). The final coefficient of each strength or weakness is obtained from multiplying the relative importance in the intensity of the presence of that item. The ranking of strengths (17 items) from respondents' perspective shows that the item of 'the possibility of fast and precise decision-making in UAST due to the specific structure of the university' has the highest mean value, so, it is the most important factor (Table 2). In other words, respondents placed the utmost importance on the organizational structure of UAST. Also, a look at the ranking of weaknesses in Table 3 indicates that 'unbalanced development of training programs in proportion to the career requirements' has the highest mean value among all factors, so, it should be the top priority. Finally,

performance assessment of internal factors shows that the difference of relative weight of strengths (3.779) to that of weaknesses (3.778) is 0.001, implying the positive performance of UAST.

### The Most Important External Factors of the Development of an Entrepreneurial UAST in Agricultural Sector

Based on the ranking of opportunities (14 items), 'the legal potentials in upstream documents' including the policies adopted in the Sixth Development Plan of Iran, the Comprehensive Scientific Map, resistive economy, and so on are ranked first (Table 4). The ranking of threats (9 items) is shown in Table 5. According to the results, the factor of 'the lack of active cooperation of the administrative sector and economic enterprises with UAST' in designing and assessing educational programs and monitoring the output of the university in the agricultural sector had the highest priority from respondents' perspective to be turned into an opportunity.

Based on the external factors' evaluation matrix of opportunities and threats, the difference of relative weight of opportunity factors (3.934) to relative weight of threat factors (3.839) is 0.095, implying a positive result. To progress, UAST and its affiliate agricultural centers should reinforce their strengths and convert their weaknesses into strengths along with the policies and missions of the university. Also, opportunities should be exploited and threat factors should be turned into opportunities.

### The Best Development Strategy for an Entrepreneurial UAST in Agricultural Sector

The SWOT matrix and internal and external factors' matrices provide a diagram for the evaluation matrix of the status and strategic action. Findings reveal that, given the present status of the university (Figure 1), and the

**Table 2.** The internal factors matrix of strengths of entrepreneurial UAST in the agricultural sector.

Sr no	Strengths	Mean* (n= 19)	Relative weight
1	The possibility of fast and precise decision-making in UAST due to the specific structure of the university	4.370	0.257
2	Reliance on non-governmental resources	4.200	0.247
3	The possibility of using the capabilities of experts and specialists of jobs, officials, and policymakers	4.020	0.236
4	The possibility of continuous and dynamic definition and revision of agricultural curricula	3.980	0.234
5	The possibility of using existing agricultural facilities and potentials in implementing educational processes	3.970	0.234
6	Existence of an appropriate structure and regulations to extensively and comprehensively monitor and assess agricultural training centers	3.910	0.23
7	Existence of growth centers, technology clusters, and agricultural accelerators	3.870	0.228
8	The possibility of aggregating post-graduate programs at different educational levels into formal agricultural programs	3.830	0.225
9	Availability of an organizational structure to use the potentials of agricultural teachers and students	3.790	0.223
10	Admission of local learners	3.771	0.222
11	Access to information technology infrastructure	3.730	0.219
12	Use of modern technologies to hold applied science and technology courses in agriculture-based disciplines	3.682	0.216
13	Use of the potentials of public people and the private sector in developing agricultural training centers	3.650	0.215
14	Use of the potentials, facilities, and equipment of agricultural industrial and production units	3.561	0.209
15	Existence of a proper definition of university mission and task with the approach of vocationally-based educational university	3.482	0.205
16	Diversity in the nature of training courses tailored to career requirements	3.411	0.201
17	Existence of infrastructure to provide cultural and social services tailored to agriculture audience	3.032	0.178
Total average		3.779	-
Sum of relative weight			3.779

\* 5= Completely agree, 4= Agree, 3= No Idia, 2= Disagree, and 1= Completely disagree.

positive performance of internal factors' matrix (0.001) and external factors' matrix (0.095), the best strategy for UAST, especially in the agricultural sector, is the aggressive strategy (SO). In the context of this strategy, UAST should reinforce its strengths and exploit its opportunities or use them in coping with threats in order to grow and develop its agricultural sector.

## RESULTS AND DISCUSSION

Agricultural applied sciences and technology centers are a component of technical and vocational training centers

whose goal is to train skillful human resource and improve their scientific and technical knowledge to be competent for jobs, professions, and new business establishment (entrepreneurship), which will finally lead to the nation's development. Therefore, these centers need to be coordinated and linked with manufacturing and service sectors and employment systems. Thereby, they can be supplied with comprehensive information on the requirements of the labor market. This will help them adjust their curricula and match educational contents and methods with labor market requirements in terms of entrepreneurship orientation, which can lead

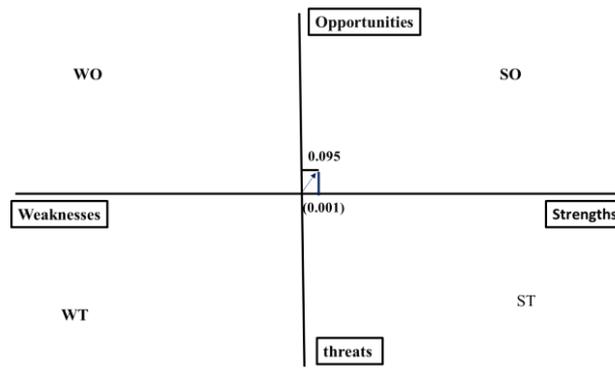


Figure 1. Summary of external and internal factors' matrix.

Table 3. The internal factors matrix of weaknesses of entrepreneurial UAST in the agricultural sector.

Sr. No.	Weaknesses	Mean * (n= 19)	Relative weight
1	Unbalanced development of training programs in proportion to the career requirements	4.32	0.227
3	Inadequate understanding of the nature of applied sciences and technology programs by administrators, teachers, and so on	4.1	0.209
4	Lack of full conformity of the development of agricultural skills' training with regional needs and career standards	3.98	0.209
5	Multiplicity and incoherence of rules, regulations, instructions, and internal directives	3.97	0.206
6	The dominance of political pressures in the decision-making process for some university activities	3.91	0.206
7	Borrowing of university administrators and officials and low duration of management period at different levels	3.91	0.205
8	Lack of international attitude and inattention to the use of global experiences in agricultural programs	3.89	0.203
9	Poor equipment and infrastructure of agricultural training centers	3.85	0.203
10	Ineffective monitoring of the performance of agricultural applied sciences and technology institutions and the impossibility of dealing with them properly	3.85	0.203
11	Admission of poor students due to the need for financing the entire university through their tuition	3.76	0.198
12	Inefficiency in the management process of agricultural instructors, including recruitment, retention, promotion, etc.	3.69	0.194
13	Lack of a pricing system (for tuition) corresponding to the field and location of agricultural program implementation	3.65	0.192
14	Inadequate rules and regulations specific to agricultural applied sciences and technology institutions	3.61	0.19
15	Lack of management technologies such as knowledge management system, futures research, suggestion system, etc.	3.60	0.189
16	Insufficient governance of information and communication technology over all functional aspects of the line and staff in decision-making processes	3.60	0.189
17	Lack of comprehensive long-term, medium-term and operational plans commensurate with existing plans	3.56	0.187
18	Inefficiency in the process of human resource management (in the recruitment system, promotion system, evaluation system, etc.)	3.47	0.183
19	Lack of a proper mechanism for the admission of non-Iranian students	3.21	0.169
	Total average	3.778	-
	Sum of relative weight	-	3.788

\* 5= Completely agree, 4= Agree, 3= No Idia, 2= Disagree, and 1= Completely disagree.

to the self-employment of the graduates. The demographic data showed that most interviewees were faculty members of state-run universities, such as Tehran University,

Amirkabir University, and Shahid Beheshti University, with a relatively long experience in higher education.

**Table 4.** The external factors matrix of opportunities of an entrepreneurial UAST in the agricultural sector.

Sr. No.	Opportunities	Mean * (n= 19)	Relative weight
1	Legal potentials in upstream documents	4.270	0.305
2	Feasibility of providing special training programs tailored to the development requirements of the country	4.220	0.301
3	Demand for the investment of non-governmental sectors in agricultural applied sciences and technology higher education	4.180	0.299
4	Extensive facilities and potentials for the implementation of applied sciences and technology education in agriculture across the country	4.100	0.293
5	Existence of some successful examples of effective presence of graduates of the agricultural applied sciences and technology system in the real work environment	4.100	0.293
7	Desire of specialists and experts to the documentation of agricultural occupations in the applied sciences and technology system	3.970	0.284
8	Job complexity and rapid technological change, followed by the creation of new agricultural jobs	3.950	0.282
9	Support of senior officials of the government and society for job-oriented agricultural training	3.910	0.279
10	Existence of demand for applied sciences and technology education in agriculture abroad, especially in neighboring and Islamic countries	3.870	0.276
11	The potential to benefit from the managerial and executive authority of agencies involved in applied science and technology courses	3.810	0.272
12	Existence of successful models of applied science and technology education in agriculture in some countries	3.670	0.262
13	Ability to divide national work through partnership with executive agencies, ministries, and economic enterprises, especially the Ministry of Agriculture Jihad	3.570	0.255
14	The gaps in agricultural job skills among graduates of other educational systems	3.410	0.244
Total average		3.934	-
Sum of relative weight		-	3.934

\* 5= Completely agree, 4= Agree, 3= No Idia, 2= Disagree, and 1= Completely disagree.

**Table 5.** The external factors matrix of threats of an entrepreneurial UAST in the agricultural sector.

Sr. No.	Threats	Mean * (n= 19)	Relative weight
1	Lack of active cooperation of the administrative sector and economic enterprises with UAST	4.23	0.385
2	Lack of a common understanding of the definitions, principles, structure, and approaches of applied science training within UAST	4.16	0.378
3	Lack of reference high council to coordinate and set policies for agricultural skills training at the national level	3.98	0.362
4	Uncertainty about the importance, role, and status of applied sciences and technology education in agriculture in accordance with successful countries	3.98	0.362
5	Low economic, social and cultural status of the graduates of agricultural applied sciences and technology system in the society	3.98	0.362
6	Lack of a definition of supportive financial policies in accordance with university missions	3.9	0.355
7	Non-implementation of professional qualification system in executive agencies	3.81	0.346
8	Existence of government-supported university centers with a similar mission	3.7	0.336
9	Lack of comprehensive databases on labor market jobs at local, provincial and national levels	3.66	0.333
Total average		3.839	-
Sum of relative weight		-	3.839

\* 5=Completely agree, 4=agree, 3 = no Idia, 2=disagree, and 1= completely disagree

The strengths identified in this research included 'the possibility of fast and precise decision-making in UAST due to the specific structure of the university', 'reliance on non-governmental resources', and 'the possibility of using capabilities of experts and specialists of jobs, officials, and policymakers'. These are consistent with the results of Behzadi *et al.* (2014), Gibb *et al.* (2012), and O'Shea *et al.* (2008b). In this research, some characteristics of agricultural entrepreneur university such as flexible organizational structure, special communication, and benefit from experts and specialists have been mentioned. Since UAST supplies its budget by tuitions with minimum reliance on the government, it can be inferred that it can achieve financial sustainability, which is a key indicator of entrepreneurial universities. Additionally, the flexible structure of the UAST (precise and fast decision-making) and its connections with officials, policymakers, and experts of agriculture and related industries would allow the university to establish agricultural training centers near the labor centers (e.g. agri-industries and agriculture-dependent factories), thereby developing more skillful graduates in the agricultural sector and ensuring their employment.

The main weaknesses were 'unbalanced development of training programs in proportion to the career requirements', 'incorrect system of student admission considering the mission of the university', and 'inadequate understanding of the nature of applied science and technology programs by administrators, teachers, and so on'. This is in agreement with the studies of Gibb *et al.* (2012) and Yadollahi Farsi *et al.* (2012). In this research, some problems of agricultural entrepreneur universities, such as how to accept students and lack of knowledge of the executives regarding the skills training, entrepreneurship and applied science have been mentioned. It can be said that more focus on quantitative development of agricultural applied sciences and technology centers and less emphasis on the

quality of skill training has resulted in unbalanced development of training programs. To make a reform, universities should use upstream documents and existing legal framework to develop training programs in the agricultural centers of UAST for spatial planning and other regional requirements. On the other hand, to tackle the problem of administrators and teachers' inadequate knowledge of skill training, UAST should turn this weakness into a strength by holding training courses for teachers and administrators.

Findings on opportunities ('legal potentials in upstream documents', 'feasibility of providing special training programs tailored to the development requirements of the country', and 'demand for investment of non-governmental sector in agricultural applied sciences and technology higher education') are consistent with the previous researches (Hannon 2013; Nikfarjam *et al.* 2018; Kuratko *et al.*, 2009; Rothaermel *et al.*, 2017). In these researches, the authors have emphasized the capacities available in the agriculture entrepreneurship university such as the demand for investment of the non-governmental sectors and the existing legal solutions for the growth and prosperity.

It can be inferred that, unlike theoretical training, investors of the non-governmental sector can significantly contribute to employment by empowering human resources in the agricultural sector. This is because they are persistently requesting licenses to hold training courses on agricultural topics and relevant processing industries, given the legal capacities in upstream documents, focus on job requirement assessment in each region, and employment orientation of UAST. In addition, organizations requesting courses on applied sciences and technology (non-governmental investors) can play a key role in sustainable growth and development of the country by developing skillful and competent graduates.

Identified threats included 'lack of active cooperation of the administrative sector and



economic enterprises with UAST', 'lack of a common understanding of definitions, principles, structure, and approaches of applied sciences training within UAST', and 'lack of reference high council to coordinate and set policies for agricultural skills training at the national level'. These findings are consistent with the results of Hassangolipour *et al.* (2011), Vashegani Farahahani *et al.* (2017), and Pasha *et al.* (2014). In their research, they referred to some threats of agricultural entrepreneur UAST including incomplete understanding of the principles, lack of comprehensive business databases, and lack of supreme council for coordination of agricultural skills training. This implies that, if economic enterprises do not cooperate for any reason, the number of students and learners in agricultural applied sciences and technology centers may decrease, which will impair the budget. On the other hand, lack of a reference high council to coordinate and set policies on skill training in the agricultural sector at a macro level, including the ministries involved, results in non-coordination in student admission and excessive growth of graduates in different sectors, especially in the agricultural sector. Therefore, it is necessary to convert threats

into opportunities to ensure the growth and prosperity of UAST.

Therefore, in order to grow and develop applied scientific centers of agriculture, problems should be continuously analyzed and solved. For this purpose, different identification strategies and, finally, the SO strategies had the highest weight among all strategies, so, they are the top priority in the strategic analysis of an entrepreneurial UAST in the agricultural sector. Universities should try to use internal strengths to grasp external opportunities in the best possible way in the context of SO strategies. This strategy needs some actions and conditions. Overall, results of the present study can contribute to taking actions to convert a university into an entrepreneurial university and tackling the obstacles. Undoubtedly, findings can be used in other universities and disciplines. Since some managers of universities and educational institutions are not eager to turn their respective universities into an entrepreneurial university, future research can focus on studying factors underpinning this reluctance in UAST and other universities. Finally, executive recommendations of the research, which are based on the strategies derived from this research on the agricultural section of UAST, are presented in Table 6.

**Table 6.** Action plans in the context of strategies

WO strategies	Action plans
Organizing and developing agricultural applied sciences and technology programs in a balanced manner	<ul style="list-style-type: none"> <li>• Making educational activities specialized and mission-oriented and polarizing training centers in accordance with regional climatic and agricultural conditions</li> <li>• Strengthening private and non-governmental sectors in the agricultural sector</li> <li>• Helping to increase employment by empowering agricultural manpower in coordination with executive agencies, especially the Ministry of Agricultural Jihad</li> <li>• Development of self-employment disciplines in the agricultural sector</li> </ul>
Establishment of a coordinated integrated system and national supervision in the University of Applied Sciences	<ul style="list-style-type: none"> <li>• Establishing a comprehensive and continuous monitoring and evaluation network in the implementation of applied scientific agricultural education;</li> <li>• Support of Agricultural Applied Sciences Center, from creating awareness and stimulating ideas to development and implementation</li> <li>• Mobilizing all resources, abilities and capabilities to seamlessly and coherently promote entrepreneurship of learners throughout the country</li> </ul>
Establishment of a coordinated integrated system and national supervision in the University of Applied Sciences	<ul style="list-style-type: none"> <li>• Promotion of career path determination services in small and medium size companies (SMEs) and entrepreneurship education</li> <li>• Modification of processes of agricultural regulations and educational standards</li> </ul>

**Table6** continued...

Continued of Table 6. Action plans in the context of strategies

ST strategies	Action plans
Improving the role of agricultural skills training in the production of indigenous skills and technology	<ul style="list-style-type: none"> <li>• Promotion of the implementation of professional competency system at internal and external levels of the university</li> <li>• Development and promotion of electronic services in The University of Applied Sciences</li> <li>• Improving laboratory and workshop space for each student in agricultural fields tailored to skill training and increasing creativity</li> <li>• Increasing research or educational institutes focusing on social and skill issues in the university <ul style="list-style-type: none"> <li>• Observing employment orientations in the agricultural sector</li> <li>• Observing popular orientations in the agricultural sector</li> <li>• Observing economic capacities and advantages in the agricultural sector</li> </ul> </li> <li>• Identifying new jobs and developing new fields in accordance with the needs of job areas and development programs of executive bodies</li> <li>• Identifying new jobs and developing new fields in accordance with the needs of job areas and development programs of executive bodies</li> </ul>
Designing and implementing a province-wide educational need assessment model for the agricultural sector	<ul style="list-style-type: none"> <li>• Identifying new jobs and developing new fields in accordance with the needs of job areas and development programs of executive bodies</li> <li>• Identifying new jobs and developing new fields in accordance with the needs of job areas and development programs of executive bodies</li> </ul>
WT strategies	Action plans
Developing agricultural modular curricula and getting involved in new labor market potentials with the aid of executive agencies	<ul style="list-style-type: none"> <li>• Training in crafts, handicrafts, and tourism, especially processing industries in different agricultural sectors</li> <li>• Development of training of government employees (based on Article 10 of the Skills and Technology Education System)</li> <li>• Capacity building for existing centers and reducing licensing for new centers in the agricultural sector</li> <li>• Developing applied sciences and technology education (geographically) in the market level of regional, Islamic and international countries in the agricultural sector</li> <li>• Increasing joint investments with foreign universities</li> <li>• Support of the Center for Applied Agricultural Sciences for the international mobility of staff and students in the field of employment and innovation</li> <li>• Attracting international staff and entrepreneurs</li> <li>• Exchange of professors and students with international centers for entrepreneurship education in agriculture</li> </ul>
Increase international interactions and play the role of reference for agricultural skills training	<ul style="list-style-type: none"> <li>• Support of the Center for Applied Agricultural Sciences for the international mobility of staff and students in the field of employment and innovation</li> <li>• Attracting international staff and entrepreneurs</li> <li>• Exchange of professors and students with international centers for entrepreneurship education in agriculture</li> </ul>
SO strategies	Action plans
Enhancing the quality of agricultural training components	<ul style="list-style-type: none"> <li>• Modifying processes and re-engineering regulations and educational standards specific to the agricultural sector,</li> <li>• Standardizing textbooks in accordance with the characteristics of jobs in the agricultural sector</li> <li>• Equipping training centers by attracting credit, applying incentive financial policies, etc.</li> <li>• Amending the standards and regulations for auditing teachers in the agricultural sector and teaching methods in order to benefit from professionals in the field</li> <li>• Establishing teacher training centers, changing agricultural courses and student admission timing with an emphasis on admission tailored to spatial and temporal needs of executive agencies</li> <li>• Establishing a comprehensive and continuous monitoring and evaluation network in the implementation of agricultural applied sciences and technology in training centers</li> </ul>
Enhancing the quality of agricultural training components	<ul style="list-style-type: none"> <li>• Establishing entrepreneurship camps, entrepreneurship exchange, agricultural entrepreneurship markets</li> <li>• Creating student businesses in the agricultural sector</li> </ul>
Developing financial resources and the use of existing potentials of the agricultural sector with no financial burden on the government	<ul style="list-style-type: none"> <li>• Developing growth centers and reproductive companies to achieve the third generation university and generating sustainable incomes from the commercialization of technology in the agricultural sector</li> <li>• Selecting solutions for the development of sustainable income for the university, such as providing job standardization services, designing and implementing courses, providing income-generating technological services and establishing international campuses in the agricultural sector</li> <li>• Attracting different financial resources and pay according to performance</li> <li>• Improving the commitment and capacity of the university to increase revenue from non-tuition resources and traditional public resources</li> </ul>
Basing decisions on research, and setting policies based on modern agricultural and natural resources' technology	<ul style="list-style-type: none"> <li>• Pay serious attention to research topics and making decisions based on field studies and research in various fields of agriculture</li> <li>• Completing the cycle of turning ideas into phenomena (innovation system) and developing growth centers and technology clusters in the agricultural sector</li> <li>• Creating a science and technology park</li> <li>• Increasing interdisciplinary research or training centers focused on social issues and agricultural skills</li> </ul>



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## تحلیل راهبردی دانشگاه جامع علمی - کاربردی کارآفرین در بخش کشاورزی

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## چکیده

از جمله راهکارهای کلیدی در آموزش عالی، در اولویت قرار دادن توسعه دانشگاه کارآفرین است. دانشگاه جامع علمی - کاربردی به‌عنوان یکی از متولیان اصلی نظام آموزشی عالی مهارتی بخصوص در بخش کشاورزی است که هدف آن فراهم آوردن موجباتی است که دانش‌آموختگان بتوانند دانش و مهارت لازم را کسب نمایند. جهت نیل به این مهم، دانشگاه باید بتواند به توسعه آموزش‌های کارآفرینی در سیستم آموزشی و برنامه‌ریزی خود پردازد. هدف این پژوهش تحلیل راهبردی دانشگاه جامع علمی - کاربردی کارآفرین در بخش کشاورزی است. نمونه آماری این پژوهش را ۱۹ نفر از رؤسا، معاونین، مدیران پیشین و حال حاضر دانشگاه و خبرگان و رؤسای مراکز کشاورزی علمی - کاربردی تشکیل دادند که پس از مصاحبه با این افراد و رسیدن به اشباع نظری، نقاط قوت، ضعف، تهدیدها و فرصت‌های مراکز کشاورزی علمی - کاربردی مشخص گردید و از برآیند ماتریس این نقاط، راهبرد تهاجمی به عنوان مناسب‌ترین راهبرد برای مراکز کشاورزی دانشگاه جامع علمی - کاربردی تعیین گردید. مهمترین راهبردهای این رویکرد عبارت از: ساماندهی و توسعه متوازن دوره‌های آموزش علمی - کاربردی کشاورزی، طراحی و پیاده‌سازی مدل نیازسنجی آموزشی در بخش کشاورزی در هر یک از استان‌ها، توسعه آموزش‌های پودمانی کشاورزی و ورود به ظرفیت‌های جدید بازار کار با کمک دستگاه‌های اجرایی، ارتقای کیفیت مؤلفه‌های آموزش کشاورزی، توسعه منابع مالی و استفاده از پتانسیل‌های موجود در بخش کشاورزی بدون تحمیل هزینه به دولت و پژوهش محور نمودن تصمیم‌گیری‌ها و سیاست‌گذاری‌های حاکم مبتنی بر فناوری روز کشاورزی و منابع طبیعی می‌باشد.