

Development Center Network Strategic Plan Tehran University of Applied Science and Technology

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Abstract: Corporate experts and planners consider strategic plan as one of the most effective organizational management approaches. Strategic planning and strategic management help organizations to face rapid changes in today's flowing, complicated, and changing world. Strategic plan provides a model for identifying and solving critical problems that an organization faces. A strategic model identifies organizational strengths and weaknesses; takes advantage of opportunities and situations; and provides guidelines to overcome weaknesses and threats that may endanger an organization. Strategic planning is an effective initiative to meet the challenges of a competitive and changing world.

[Ensieh Zahedi. **Development Center Network Strategic Plan Tehran University of Applied Science and Technology**. *Life Sci J* 2012;9(3):2234-2245] (ISSN:1097-8135). <http://www.lifesciencesite.com>. 321

Keywords: Strategic plan, Corporate, effective, organizational, challenge, competitive

A strategic plan can help organizations to:

- 1) think strategically;
- 2) develop effective strategies;
- 3) identify priorities and make current decisions based on the possible future outcomes;
- 4) determine the future direction and build a logical framework for decision making;
- 5) employ maximum insight and intelligence;
- 6) solve main organizational problems;
- 7) improve organizational performance;
- 8) address change properly;
- 9) form expert and specialized work groups.
- 10) After separation from Education Ministry and joining Higher Education Ministry, University of Applied Science and Technology in compliance with Article 21 of 5th National Development Plan Regulations has undertaken the task of supporting and facilitating knowledge based projects and commercialization of innovative and evolutionary technologies proposed by its own professors and students. University Development Centers established with this objective shall be instrumental in new technological developments. The establishment of Development Centers in 31 Provinces with more than 1500 incubators for University of Applied Science and Technology shall require a complete strategic plan prepared by considering vision, outlook, mission, and value statement of University.

What Is Strategic Planning

Strategic planning is the art and science of development, implementation, and evaluations of decisions which enable an organization to achieve its long-term objectives. Strategic planning looks into the internal and external environments to devise

strategies. It evaluates corporate strengths and witnesses in order to provide a framework for evaluation and supervision of external opportunities and threats.

Strategic planning is a continued and organized endeavor to develop and establish a framework that defines the purpose of an organization, what it will do, and what it will accomplish. Strategic planning provides a platform for communication and cooperation to direct the stakeholders' diverse interests and values toward the main organizational objectives. This platform promotes and encourages systematic decision making for successful implementation of the strategic plan.

Strategic planning requires:

- 1) Organizational leaders who believe in strategic planning and are willing to support it because they have accepted the fact that it is necessary and trust what it can provide;
- 2) Employees who support the strategic plan and are committed to its implementation;
- 3) Consensus among main decision makers for continued discussions about what strategic planning is and what is expected from it;
- 4) A logical framework for implementation of the strategic plan;
- 5) A plan to form a decision making or consulting committee to supervise the work in progress;
- 6) A plan to establish a competent group for information collection, meeting arrangements, and drafting the strategic plan;
- 7) Identification of what needs to be done to address opportunities and threats;
- 8) Preparation of an action plan which is politically acceptable, is technically possible, and is morally responsible;

- 9) Attraction of external support and assistance during work progress;
- 10) Constant focus on strategic thinking and actions, and not getting overwhelmed by implementation process; and
- 11) Training programs on the strategic direction, objectives, and process to encourage employee and stakeholder participation as a critical factor for success of the strategic plan.

Strategic Planning Glossary

Vision:	A clear perspective of organizational ideals
Mission:	A statement of organizational philosophy and the nature of its business; A mission statement includes organizational objectives, responsibilities, characteristics, and values.
Values:	A set of principles that an organization adheres to
Strategy:	A path for achieving corporate mission and/or objectives
Strategic Plan:	A collection of principles, procedures, and tools that help organizational leaders and managers to control and adapt to a changing environment.
Strategic Planning:	A process for evaluating the present organizational standing, determining its future direction, deciding on objectives, developing strategy, formulating actions to implement strategy, evaluating the outcome, and assessing the effectiveness of strategy implementation
Stakeholders:	A group of internal and external individuals who are associated with an organization, affect its operations, and contribute to its achieving the set objectives, and, in return, receive positive or negative consequences of its activities
Strengths (S):	A collection of corporate capabilities and internal resources that support the achievement of organization objectives
Weaknesses (W):	A combination of internal limitations and shortcomings that prevent an organization from achieving its objectives
Opportunities (O):	A set of external environmental factors whose identification and utilization will help an organization to strengthen its abilities in achieving its objectives
Threats (T):	A set of external factors that prevent an organization from achieving its objectives
SO Strategies:	Strategies devised based on organizational strengths in order to take advantage of opportunities in an attempt to pursue organizational objectives
ST Strategies:	Strategies that control threats or transform them into opportunities
WO Strategies:	Strategies that take advantage of opportunities to address shortcomings
WT Strategies:	Strategies that organizations select for survival or for addressing weaknesses and threats
Development Centers:	A center established by an academic institution with the support and cooperation from Ministry of Higher Education to facilitate research and development activities which contribute to the advancement of science and/or creation of wealth
Development Center Network:	A group of development centers in different geographical locations with given responsibilities and/or assignments that remain in close contact with each other in order to, physically or virtually, share resources, information, opportunities, and the like

Values

- 1) Attention to overall plans (especially the twenty-year outlook) and the national needs specified in the central plan;
- 2) Commitment to scientific methods and avoiding personal, group, and political considerations in research activities;
- 3) Respect for individuals as the main asset;
- 4) Optimum utilization of time and resources in research activities;
- 5) Cooperation, coordination, and mutual support of Center employees in achieving objectives; and

- 6) National and international interaction plus continued communication with outside environment.

Outlook

Continued and sustainable technology development and commercialization of research outcomes for the advancement of human benefits with emphasis on proper values and morality

Mission

Tehran University of Applied Science and Technology has set the following missions for its plan for a Development Center Network in compliance with the national science and technology guidelines:

- 1) Advancement of scientific, research, and management capabilities for further development;
- 2) Analysis of business environment in respect to technological products and publication of the results; and
- 3) Support targeted communication with industries and operations units for commercialization of knowledge-based projects.

Mission Statement

Research Deputy of Tehran University of Applied Science and Technology shall undertake the following responsibilities assigned based on the plan decided for the University and taken from the twenty-year outlook set for Islamic Republic of Iran.

- Practical and developmental research related to technical and professional trainings; and
- Human resource training and development for Research Department aimed at increasing employee capabilities.

Overall Objectives

- 1) Create a platform for commercialization of research outcomes;
- 2) Create entrepreneurial opportunities by supporting innovation and creativity among young researchers;
- 3) Support local economy by providing technological advancement;
- 4) Facilitate the development and growth of small and mid-sized knowledge and technology oriented business units in different technological fields;
- 5) create an environment that offers proper technology-related job opportunities to attract university graduates and entrepreneurial minded individuals; and
- 6) Produce and develop marketable products and technical processes.

Responsibilities

- 1) Provide financial support to active unites in Development Center;

- 2) Obtain legal support to facilitate rapid growth of active unites in Development Center;
- 3) Provide the required services and counseling to active unites to help them produce marketable products from innovative ideas and commercialization of those products;
- 4) Supervise the growth of active unites and provide continuous analysis of their productions with the objective to increase Development Center efficiency;
- 5) Supervise activities of technological units to help them realize their idea-orientation philosophy; and
- 6) Establish Primary Development Department, if required.

Stakeholders' Benefits

A. University

- 1) Recognition
- 2) Income from middle and final development phases (in addition to early phase) for wealth accumulation;
- 3) Support for students who are active in entrepreneurial fields;
- 4) An entrepreneurial environment for students and faculty; and
- 5) Effective organization and utilization of University resources.

B. Entrepreneurs

- 1) Facilitate commercialization of new technologies through establishment of and support for the new companies;
- 2) Provide academic technological supports, even in development and growth phases;
- 3) Use past University experience in establishing new companies;
- 4) Use University reputation for product commercialization and market positioning;
- 5) Reduce cost of establishing new companies through utilization of Development Center facilities;
- 6) Use University relationships with large state and private entities;
- 7) Obtain institutional financial resources for capital increase;
- 8) Facilitate rapid production of sample products; and
- 9) Reduce commercial, managerial, and financial risks.

C. Society

- 1) Establish strong interactions among university, industry, and market;
- 2) Develop practical knowledge base and facilitate its transfer;
- 3) Develop and promote technology;

- 4) Help local economic development by establishing new companies and creating new activities;
- 5) Create employment opportunities;
- 6) Promote and encourage risky investment in the general public; and
- 7) Increase social welfare.

Environmental Factors

A. Threats

- 1) Low awareness and knowledge of policy makers and managers about the value of making policies for science and technology;
- 2) Low cooperation with media for presentation and communication of research results;
- 3) Lack of trust on the part of policy makers for scientific activities and the result of research;
- 4) Wasting available resources for operations expenses and inability to complete research assignments;
- 5) Work duplication and parallel projects;
- 6) Restriction in utilizing human and financial resources available in government sector;
- 7) Lack of policy stability due to changes of management in government organizations;
- 8) Official interests for short-term research projects;
- 9) Lack of attention to national needs when defining research projects;
- 10) Distributed decision making centers for science and technology policies; and
- 11) Continuous improvements of international standards in science and technology fields.

B. Opportunities

- 1) Existence of different centers (Development Centers and Parks) active in science and technology fields;
- 2) Policy makers' interested in science and technology issues;
- 3) Direct access and interaction with science and technology parks;
- 4) Interests of external organizations for cooperation and possible modeling;
- 5) Entrepreneurial training programs in universities across the country;
- 6) Access to sufficient knowledge and experience for commercialization of technologies;
- 7) Emergence of new technologies which require further study and policy making;
- 8) Leader's serious interest and sensitivity to science and technology issues; and
- 9) Interest for national advancement, especially in the training and research activities of Ministry of Science, Research, and Technology.

Internal Factors

A. Strengths

- 1) Interested individuals in research and entrepreneurship who are creative and have good ideas;
- 2) Offering entrepreneurship training courses as required and specialization courses in all university fields of study and in different degree programs;
- 3) Availability of higher education in all provinces with regional and province administrations;
- 4) Work diversification in the existing educational branches of Ministry of Science, Research, and Technology;
- 5) Employment quota and financial aid for faculty;
- 6) Availability of funds for primarily research;
- 7) Availability of faculty members of the related universities and committed expert individuals across the country for part-time engagement in research and teaching programs;
- 8) Availability of a huge number of young technicians and work force in Country compared to what universities can offer;
- 9) Ongoing expansion of basic and practical research in certain fields of science and technology;
- 10) Availability of scientific specialization across Country in form of 34 specialized committees covering the fields approved by Ministry of Science, Research, and Technology;
- 11) Decades of educational activities in technical and professional higher education plus support offered by former directors of technical and professional education in Iran; and
- 12) Cooperation of university directors and training institutions with the directors of science and technology parks and/or university development centers.

B. Weaknesses

- 1) Lack of a framework for coordinated interaction with stakeholders;
- 2) Shortcomings of research support services;
- 3) Shortage of sufficient and suitable researchers. Mismatch of Center employee capabilities with their responsibilities;
- 4) Inefficiency of operations and support activities;
- 5) Lack of publicity about University of Applied Science and Technology units at main universities. Lack of contact with outside entities that make science and technology policies;

- 6) Negligence in presenting the results of activities. Lack of sufficient assurance for applying research outcome;
- 7) Shortcomings in control and evaluations
- 8) Shortness of the time it takes to be accepted and approved by Ministry of Science, Research, and Technology. Non-existence of a proper organizational research structure in academic institutions;
- 9) Insufficient ICT infrastructure together with dispersion of research and technological activities in academic institutions;
- 10) Absence of a comprehensive and integrated information-operations system in science and technology;
- 11) Lack of compliance with standards established for design and implementation of systems used for information generation and communication;
- 12) Insufficient promotion of entrepreneurial culture and education among policy makers, decision makers, technology producers, and technology users;
- 13) Lack of belief in utilization of the young work force and talents in policy making, planning, and decision making in science and technology;
- 14) Insufficient utilization of the private sector capacities;
- 15) Insufficient financial resources together with the failure to allocate funding for research and technology on timely basis.
- Strength - Opportunity (SO) Strategies**
- 1) Establish and support cooperation with the development centers established by other universities and scientific associations;
 - 2) Support cooperation with universities that offer entrepreneurial training programs and encourage student participation in multidisciplinary research projects with cooperation from several universities;
 - 3) Support national development programs across country with programs that include all higher education fields of study approved by Ministry of Science, Research, and Technology;
 - 4) Create new fields of study for emerging new technologies and attract experts in these fields;
 - 5) Expand the development center network with the help of involved individuals based on entrepreneurial and commercialization potential of the existing projects;
 - 6) Interact with Developmental Centers and science/technology parks in different activities of existing projects as designer, technician, and/or operator; and
 - 7) Form partnership with development funds to take advantage of the investment opportunities.

Strengths (S)	Opportunities (O)
<ul style="list-style-type: none"> <input type="checkbox"/> Creative individuals with ideas who are interested in research and entrepreneurship; <input type="checkbox"/> Course offering in entrepreneurship as specialization course in all university fields of study at different degree levels; <input type="checkbox"/> Availability of higher education in all provinces with regional (10 regions) and province administrations; <input type="checkbox"/> Work diversification in the existing educational branches of Ministry of Science, Research, and Technology; <input type="checkbox"/> Employment quota and financial aid for faculty; <input type="checkbox"/> Availability of primarily research funding; <input type="checkbox"/> Availability of faculty members of the related universities and committed expert individuals across the country for part-time engagement in research and teaching programs; <input type="checkbox"/> Availability of a huge number of young technicians and work force in Country compared to what universities can offer; <input type="checkbox"/> Ongoing expansion of basic and practical research in certain fields of science and technology; <input type="checkbox"/> Availability of scientific specialization across 	<ul style="list-style-type: none"> <input type="checkbox"/> Existence of different centers (Development Centers and Parks) active in science and technology fields; <input type="checkbox"/> Policy makers' interested in science and technology issues; <input type="checkbox"/> Direct access and interaction with science and technology parks; <input type="checkbox"/> Interests in external organizations for cooperation and possible modeling; <input type="checkbox"/> Entrepreneurial training programs in universities across the country; <input type="checkbox"/> Access to sufficient knowledge and experience for commercialization of technologies; <input type="checkbox"/> Emergence of new technologies which requires further study and policy making; <input type="checkbox"/> Leader's serious interest and sensitivity to science and technology issues; and <input type="checkbox"/> Interest for national advancement, especially in the training and research activities of Ministry of Science, Research, and Technology.

Strengths (S)	Opportunities (O)
<p>Country in form of 34 specialized committees covering the fields approved by Ministry of Science, Research, and Technology;</p> <ul style="list-style-type: none"> □ Decades of educational activities in technical and professional higher education plus support offered by former directors of technical and professional education in Iran; and □ Cooperation of university directors and training institutions with directors of science and technology parks and/or university development centers. 	

S	Strength - Opportunity (SO) Strategies	O
S1	1) Establish and support cooperation with the development centers established by other universities and scientific associations;	O8
S2	2) Support cooperation with universities that offer entrepreneurial training programs and encourage student participation in multidisciplinary research projects with cooperation from several universities;	O5
S3 ³⁾	Support national development programs across country with programs that include all higher education fields of study approved by Ministry of Science, Research, and Technology;	O9
S5	4) Create new fields of study for emerging new technologies and attract experts in these fields;	O7
S2 ⁵⁾	Expand the development center network with the help of involved individuals based on entrepreneurial and commercialization potential of the existing projects;	O1
S8	6) Interact with Developmental Centers and science/technology parks in different activities of existing projects as designer, technician, and/or operator; and	O1
S6	7) Form partnership with development funds to take advantage of the investment opportunities.	O4

Strength - Threat (ST) Strategies

- 1- Quantitative and qualitative increase of research;
- 2- Research activities at national level;
- 3- Increased interaction between development center directors and policy makers to introduce policy makers with the services these centers provide;
- 4- Increased interaction between development center directors and other research centers to encourage participation in regional projects;

- 5- Emphasis on short-term and subject-oriented research projects based on national scientific and technological needs;
- 6- Management over development center activities through a centralized network;
- 7- Devised new activities by combining entrepreneurial plan, project, and apprenticeship for optimum utilization of available resources.

Strengths (S)	Threats (T)
<ol style="list-style-type: none"> 1) Creative individuals with ideas who are interested in research and entrepreneurship; 2) Course offering in entrepreneurship as specialization course in all university fields of study at different degree levels; 3) Availability of higher education in all provinces with 	<ol style="list-style-type: none"> 1) Low awareness and knowledge of policy makers and managers about the value of making policies for science and technology; 2) Low cooperation with media for presentation and communication of research results; 3) Lack of trust on parts of policy makers for scientific activities and the result of research;

Strengths (S)	Threats (T)
<p>regional (10 regions) and province administrations;</p> <p>4) Work diversification in the existing educational branches of Ministry of Science, Research, and Technology;</p> <p>5) Employment quota and financial aid for faculty;</p> <p>6) Availability of primarily research funding;</p> <p>7) Availability of faculty members of the related universities and committed expert individuals across the country for part-time engagement in research and teaching programs;</p> <p>8) Availability of a huge number of young technicians and work force in Country compared to what universities can offer;</p> <p>9) Ongoing expansion of basic and practical research in certain fields of science and technology;</p> <p>10) Availability of scientific specialization across Country in form of 34 specialized committees covering the fields approved by Ministry of Science, Research, and Technology;</p> <p>11) Decades of educational activities in technical and professional higher education plus support offered by former directors of technical and professional education in Iran; and</p> <p>12) Cooperation of university directors and training institutions with directors of science and technology parks and/or university development centers.</p>	<p>4) Wastage of available resources for operations expenses and inability to complete research assignments;</p> <p>5) Work duplication and parallel projects;</p> <p>6) Restriction in utilizing human and financial resources available in government sector;</p> <p>7) Lack of policy stability due to change of management in government organizations;</p> <p>8) Official interests for short-term research projects;</p> <p>9) Lack of attention to national needs when defining research projects;</p> <p>10) Distributed decision making centers for science and technology policies; and</p> <p>11) Continuous improvements of international standards in science and technology fields.</p>

S	Strength - Threat (ST) Strategies	T
S1	1) Quantitative and qualitative increase of research;	T3
S2	2) Research activities at national level;	T3
S3 ³⁾	Increased interaction between development center directors and policy makers to introduce policy makers with the services these centers provide;	T3
S10 ⁴⁾	Increased interaction between development center directors and other research centers to encourage participation in regional projects;	T11
S12	5) Emphasis on short-term and subject-oriented research projects based on national scientific and technological needs;	T8
S3	6) Management over development center activities through a centralized network;	T5
S6 ⁷⁾	Devised new activities by combining entrepreneurial plan, project, and apprenticeship for an optimum utilization of available resources.	T6

Weakness - Opportunity (WO) Strategies

- 1- Establish a network of specialized and interested individuals in science and technology policies;
- 2- Employ competent individuals for research projects at the development centers;
- 3- Establish a communication network with stakeholders;

- 4- Make structural changes in organization to increase the productivity of center activities (i.e. design systems for communication between work groups, and between work groups and management to facilitate information exchange, assignment of responsibilities, etc.);
- 5- Improve operational and administrative system (including finance, contracts, secretariat, etc.);
- 6- Improve evaluation and classification systems for research projects;
- 7- Improve employee and faculty evaluation systems;
- 8- Improve support services for research projects;
- 9- Improve incentive systems for faculty.

Weaknesses (W)	Opportunities (O)
<ol style="list-style-type: none"> 1) Lack of a framework for coordinated interaction with stakeholders; 2) Shortcomings of research support services; 3) Shortage of sufficient and suitable researchers. Mismatch of Center employee capabilities with their responsibilities; 4) Inefficiency of operational and support activities; 5) Lack of publicity for University of Applied Science and Technology units in the main universities; and low contact with outside entities that make science and technology policies; 6) Negligence in presenting the results of activities; and lack of sufficient assurance for applying research outcome; 7) Shortcomings in control and evaluations; 8) Shortness of the time that takes to be accepted and approved by Ministry of Science, Research, and Technology; and non-existence of a proper organizational research structure in academic institutions; 9) Insufficient ICT infrastructure together with dispersion of research and technological activities in academic institutions; 10) Absence of a comprehensive and integrated information-operations system in science and technology; 11) Lack of compliance to standards established for design and implementation of systems used for information generation and communication; 12) Insufficient promotion of entrepreneurial culture and education among policy makers, decision makers, technology producers, and technology users; 13) Lack of belief in utilization of the young work force and talents in policy making, planning, and decision making in science and technology. 	<ol style="list-style-type: none"> 1) Existence of different centers (Development Centers and Parks) active in science and technology fields; 2) Policy makers' interested in science and technology issues; 3) Direct access and interaction with science and technology parks; 4) Interests in external organizations for cooperation and possible modeling; 5) Entrepreneurial training programs in universities across the country; 6) Access to sufficient knowledge and experience for commercialization of technologies; 7) Emergence of new technologies which requires further study and policy making; 8) Leader's serious interest and sensitivity to science and technology issues; and 9) Interest for national advancement, especially in the training and research activities of Ministry of Science

W	Weakness - Opportunity (WO) Strategies	O
W6	1) Establish a network of specialized and interested individuals in science and technology policies;	O1
W6	2) Employ competent individuals for research projects at development centers;	O5
W1	3) Establish communication network with stakeholders;	O4
W7	4) Make structural changes in organization to increase the productivity of center activities (i.e. design systems for communication between work groups, and between work groups and management to	O4

	facilitate information exchange, assignment of responsibilities, etc.);	O4
W7	5) Improve operational and administrative system (including finance, contracts, secretariat, etc.);	O4
W8	6) Improve evaluation and classification systems for research projects;	O4
W8	7) Improve employee and faculty evaluation systems;	O4
W4	8) Improve support services for research projects;	O4

W4 9) Improve incentive systems for faculty.

Weakness - Threat (WT) Strategies

- 1- Non-existence of a link between research projects in the development center and similar projects in other centers;
- 2- Non-acceptance of operational activities and reduction in existing operational activities.

Weaknesses (W)	Threats (T)
<ol style="list-style-type: none"> 1) Lack of a framework for coordinated interaction with stakeholders; 2) Shortcomings of research support services; 3) Shortage of sufficient and suitable researchers; and mismatch of Center employee capabilities with their responsibilities; 4) Inefficiency of operational and support activities; 5) Lack of publicity for University of Applied Science and Technology units in the main universities; and low contact with outside entities that make science and technology policies; 6) Negligence in presenting the results of activities; and lack of sufficient assurance for applying research outcome; 7) Shortcomings in control and evaluations; 8) Shortness of the time that takes to be accepted and approved by Ministry of Science, Research, and Technology; and non-existence of a proper organizational research structure in academic institutions; 9) Insufficient ICT infrastructure together with dispersion of research and technological activities in academic institutions; 10) Absence of a comprehensive and integrated information-operations system in science and technology; 11) Lack of compliance to standards established for design and implementation of systems used for information generation and communication; 12) Insufficient promotion of entrepreneurial culture and education among policy makers, decision makers, technology producers, and technology users; 13) Lack of belief in utilization of the young work force and talents in policy making, planning, and decision making in science and technology. 	<ol style="list-style-type: none"> 1) Low awareness and knowledge of policy makers and managers about the value of making policies for science and technology; 2) Low cooperation with media for presentation and communication of research results; 3) Lack of trust on parts of policy makers for scientific activities and the result of research; 4) Wastage of available resources for operations expenses and inability to complete research assignments; 5) Work duplication and parallel projects; 6) Restriction in utilizing human and financial resources available in government sector; 7) Lack of policy stability due to change of management in government organizations; 8) Official interests for short-term research projects; 9) Lack of attention to national needs when defining research projects; 10) Distributed decision making centers for science and technology policies; and 11) Continuous improvements of international standards in science and technology fields.

W	Weakness - Threat (WT) Strategies	T
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W1	1) Non-existence of a link between research projects in the development center and similar projects in other centers;	T5
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W4 2) Non-acceptance of operational activities and reduction in existing operational activities.

T4

University Development Center Network Policies and Strategies

Based on analysis of strength, weaknesses, opportunities, and treats the proposed policies and strategies are provided as follows:

No	Over Policies for University	Strategies	Programs
1	Development Center Network Research and Technology Arrangement and Development	1) Reinforce the required infrastructure for research and technological development; 2) Improve and strengthen resources; 3) Improve evaluation and monitoring systems of development center network; 4) Promote and internalize research and entrepreneurship culture; and 5) Support and develop development centers	Integrated planning, positioning, and development for the development center Link development centers in different levels Make structural changes in organization to increase the productivity of center activities (i.e. design systems for communication between working groups, and between working groups and management for information exchange, assignment of responsibilities, etc.); Provide the required funding; Establish scientific, research, and technology networks; Support research, entrepreneurial centers and development center network; Develop specialized, committed, and competent personnel as required by the development center; Design and implement performance evaluation and monitoring system for the development center; Publicize and distribute the development center reports; Implement product quality assurance programs for the development center; Utilize state and private sectors potentials for investment and implementation of projects; Establish or organize technological units in all development centers.
2	Identification and fulfillment of commitments set for the development center of Tehran University of Applied Science and Technology as part of the overall objectives for the growth and expansion of research and technology among universities	1) Support and develop infrastructure to expand development centers according to the national development programs 2) Enforce positioning and classification system for scientific groups in academic, research, and technology institutions; and	Planning and positioning of national development center network in compliance with national preparation program. Provide opportunities for participation of development center network in positioning and classification of academic, research, technology, and scientific institutions and/or groups

No	Over Policies for University Development Center Network	Strategies	Programs
		3) Increase interaction between academic development center network with policy making and technology planning center of the related Ministry	Engage the development center network in programming of policy making center and technology planning of the relevant ministry
3	Identification and fulfillment of commitments set for the development center of University of Applied Science and Technology in compliance with national development and preparation programs	1) Improvement and development of production standards;	Review and implement production standards
		2) Expansion of the development center network according to national preparation program; and	Design and position national development center network according to national preparation program
		3) Organize and support the development center technological activities	Extend technological units activities with the participation of state and private sectors
4	Identification and fulfillment of commitments set for the development center network according to national development objectives at regional and international levels	1) Interactions development with international institutions and organizations related to the development center network	Subscribe to "fundamental principles of official activity" advocated by International Trade Organization for technology production Conduct joint activities between development center network and the related international organizations Provide complete information about activities conducted by development center network to international organizations and institutions Create an information database about relevant international organizations and institutions
5	Participation of private sector in University development center network activities	1) Create a platform for growth, development, and participation of private sector (scientific associations, research centers, investment and knowledge-based companies) in University development center network activities	Utilize private consulting, scientific, and technologic services for development center network activities Utilize private sector services in research projects and implement technologic projects conforming to development center network policies

Reference Documents

Analysis of reference documents is critical in order to make strategic planning and policies for a Development Center Network for University of Applied Science and Technology.

Statistical population for drawing strategic plan for University Development Center Network included Civil Laws; National Outlook Document; National Overall Policies; Leader's guidelines; Cultural Revolution Council approvals; 5th Development Program Regulations; Regulations Pertaining to Objectives, Responsibilities, and Organization of Ministry of Science, Research, and Technology, Higher Education Statement for the Next Century; and Statement of International Science Conference for 21st Century.

Additional reference documents reviewed for this proposal included Science, Research, and Technology Minister's plan; National Provisional Document for Attraction Criteria, Departmental Strategic Plans (National Plan for the Scientific Development System, National Plan for the Technological Development System, Technological Prioritization Plan, Research and Technology Department Documents, Strategic Plan for the Technological Development System, Strategic Plan for the National Scientific Development System, National Document for Higher Education Development in 5th National Development Plan, and Document for Research and Technology Development in 5th National Development Plan).
Policies

The following policies are proposed based on the review and analysis of the reference documents pertaining to science, research, and technology:

- 1) Organization and development of Research and Technology;
- 2) Identification and fulfillment of commitments to be made for University Development Center Network pertaining to objectives set for research and technology development in regional universities;
- 3) Identification and fulfillment of commitments to be made for University Development Center Network in compliance with the objectives of national development and preparation program;
- 4) Identification and fulfillment of commitments to be made for University Development Center Network in compliance with national development objectives for region and world; and
- 5) Encouragement of private sector participation in University Development Center Network activities.
- 7) Support and develop positioning and classification systems for academic, research, and technology institutions and scientific groups;
- 8) Support interaction of University Development Center Network with the Center for Technological Policy and Planning in the related Ministry;
- 9) Support and develop production standard;
- 10) Expand University Development Center Network in conforming to National Preparation Plan;
- 11) Support and organize technology related activities for University Development Centers;
- 12) Develop interactions with international organizations and institutions related to University Development Center Network;
- 13) Develop a platform for growth, development, and participation of private sector (scientific associations, research centers, investment and knowledge-based companies) in University Development Center Network activities;

Proposed SWOT Strategies

- 1) Reinforce the required infrastructure for research and technological development;
- 2) Improve and increase resources;
- 3) Improve evaluation and monitoring systems for Development Center Network;
- 4) Promote and internalize research and entrepreneurship culture;
- 5) Support and develop Development Centers;
- 6) Support and develop infrastructures to help for expansion of Development Centers according to the national preparation plan ;

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8/26/2012