A Public Private Partnership Approach
to Support SMEs in ICT Sector in Iran

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Abstract:

Information and communication technology is one of the emerging technologies that have a great impact on all of the economy infrastructures. This technology changes the viewpoint of policy makers toward a knowledge based economy.

In order to promote this technology in Iran, and according to fourth development plan, we need to empower the private sector in this field by commercializing R&D activities, and so we should leverage the SMEs in ICT sector.

In order to reach these objective, in this paper we discuss the design and operation of a special program to increase the number of new products/services in the market, to enhance the quality of existing products/services, and to upgrade ICT companies such that they can propose better services to their customers. This program is indeed an incubation program for ICT outreach companies and is the first step toward "without-wall incubators" in Iran.

In this paper we also mention some other key points, such as the program role to establish new spin off enterprises, defining specific rules to achieve a competitive environment, how to hold Intellectual property issues, and how to monitor the activities of the companies doing the projects.

Keywords: Public Private *Partnership Program, Framework program, without wall incubators, outreach companies, ICT sector*

1. Introduction

Many countries have their own plan to promote entrepreneurship and innovation in ICT sector. Building capacities in private sector in this field of technology is one of the important solutions to reach this objective.

According to the fourth development plan of Iran; "In order to develop the market for knowledge based products, commercializing results of innovations and technology and leveraging the role of private sector, the government should develop structures for promoting knowledge based activities in public and private sector, especially in establishing and developing technology parks and incubators".

Although the action of STPs' and incubators are very important to achieve these goals, but they have limited spaces and cant cover all the enterprises. So some complementary programs should be run to increase the target market of incubators. This program covers both resident clients inside the incubators and nonresident outreach companies outside incubators.

Another important factor that should be considered is that the graduated community in Iran suffers from high rate of unemployment. Capacity building in existing companies and helping graduated entrepreneurs to establish new enterprises can help the growth of knowledge based economy. This will result in creating new job opportunities.

In this paper we offer a program to support SMEs to enhance/create their products and services by providing the required R&D expenditure by the government. This solution is indeed the partnership of the private and public sector to work in a synergic space and helps to build capacity in ICT companies in order to increase their capability to compete with other companies active in ICT sector. There are similar program in other countries such as European Framework Program.

One of the main objectives of this program is to support "market driven R&D" in ICT sector. So, as will be shown in the program workflow; all the ideas are collected from the active ICT companies who knows the market very well, although individuals have this opportunity to propose their ideas.

The seed funding in this program is provided by both the private companies and the government. Each company should provide half of the fund needed for developing products/services and the remaining is supported by the government and paid as a research grant.

Another important key issue of this program is "market segmentation" In order to segment the ICT market in Iran, the products/services in this field of technology was divided into 6 main categories includes; computer networks, educational and entertainment soft wares, security systems artificial intelligence, electronic commerce and Information systems. By allocating special fund for each of theses 6 categories, we can define priorities for each of them and make the private sector to pay attention to specific segments.

We have also defined some eligibility criteria for promoting "open source" products and services by allocating more budgets and setting higher priorities for them.

Major goals of the program:
The program steering committee has defined five major goals and objectives in this program:

- To create new products/services in ICT market so as to increase their versatility
- To upgrade existing products/services (enhancement of products/services that already have their own market)
- To establish and create new ICT companies
- To upgrade existing ICT companies
- Internationalization of Iranian ICT companies and/or products and services

This paper provides an insight into various aspects of this program. The paper is organized as follows;
In section 2 we discuss how to segment the ICT market in order to make priorities on specific part of the market. Section 3 deals with organization of the program. In section 4 we describe some key decisions that make the program work properly, and in section 5 the program workflow will be illustrated. Section 6 explains the outcome and results of first phase of this program. We also discuss in the section 7 of this paper some trends for the second phase of the program, such as establishing regional technical committees in all Science and Technology Parks (STPs) in Iran, and to extend the scope of the program to other technology areas.

2. Program Segmentation

In order to leverage the specific parts of the ICT market in Iran, the market in this field of technology was divided into six different segments as follows:

- Computer networks (Hardware, BMS, Digital Radio, cache servers, IPv6)
- Educational and entertainment soft wares (Training, electronic games, contents, art, entertainment, education)
- Security systems (Antivirus, IDS, PKI, Hardware locks, Firewalls)
- Artificial intelligence (Speech processing, image processing, TTS, Automatic translators)
- Electronic commerce (Smart cards, CRM, E-banking)
- Information systems (ERP, Office Automation, Archive soft wares)

By allocating specific amount of investment to each of the mentioned market segments, we can shape the market so as to focus on a specific part of ICT market. This "market shaping" process can also encourage the private sector to pay attention to these incentives and leverage the needed market segments.
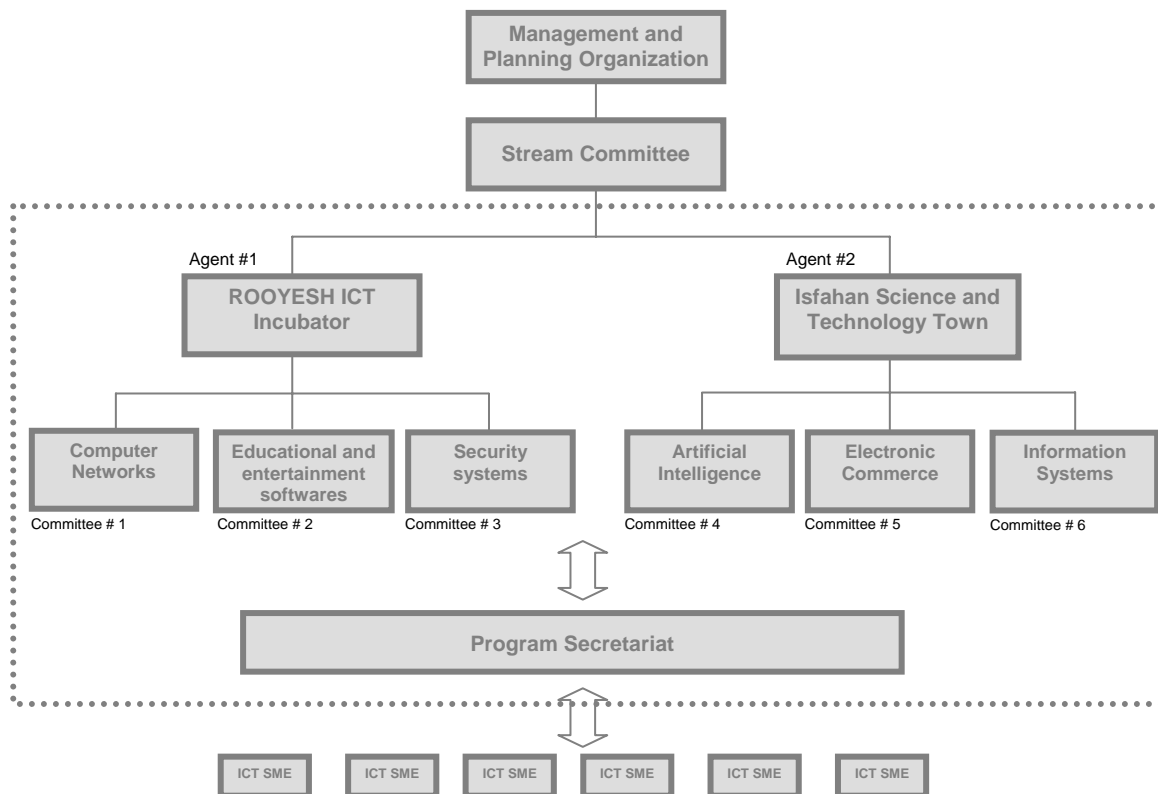
3. Program Organization

The organization chart of this program is depicted in figure 1. As can be seen from this figure, there are 4 main parts in the organization chart;

Government: MPO (Management and Planning Organization) is the representative of government. It is indeed the anchor organization in public sector that is responsible for distributing budget to government organizations and to national plans.

Steering Committee: This council defines the trends and makes the main decisions in this program. It has the role of adapting all the decisions in this program with the rules and regulations in government and in accordance with the key issues of ICT action plan in Iran. The members of steering committee are selected by MPO.
The main tasks of steering committee includes; Market segmentation in order to define the priorities of various fields of ICT market in Iran, Defining the eligibility criteria, Setting key features of the program, Monitoring the activities of other sections of the program and final approval of decisions made by agent organizations and technical committees

Figure 1: Organization chart of the program

Agent organizations; Theses organizations play the role of an interface between government and private sector. In the first phase of the project, two organizations was selected to act as an interface; Rooyesh ICT incubator (RITI) and Isfahan Science and Technology Town (ISTT). The reason for choosing agent organizations from incubation industry in Iran is that this program is indeed the first step toward "incubators without wall" that can help outreach companies to use some of the incubators facilities outside the physical incubator's area.

Technical committees: According to six main segments that were defined in ICT market in this program; a technical committee was shaped for each segment. Each technical committee has seven members; two experts from private sector in the related fields, two experts from universities, one expert from Management and Planning Organization (MPO), one from Supreme council of ICT, and one secretary from agent organization. The members of technical committees are selected by steering committee.

The technical committees has the task of reviewing the ideas collected from ICT companies, evaluating the applications received from the companies, and monitoring and coaching the projects done by the companies

4. Some Key Issues

There are some important key points in the program that has been set as regulations by steering committee:

- The first issue is that the target community of this program is the active SMEs in various fields in ICT sector. It means that there is no support for individuals in this program.
- The second issue is that the final projects should definitely result in a marketable product/service, so there is no support for pure research projects. Government contribution is considered as seed money for the research phase of developing a product/service and paid as a research grant.
- The third important point is that up to 50% of fund needed for developing a product/service is supported by the government and the other half should be provided by private companies. The maximum seed funding provides by the government in this program is $42000 (for a $84000 project). It means that even if a product needs more than this value, the remaining part should be provided by private sector.
- The fourth point is that only private companies can use the grant. In other words, the companies that part of them belongs to the government do not allow use the facilities of this program.
- The fifth key point is that only SMEs allow use the grant. The steering committee has defined a specific rule to distinguish between SMEs and other companies; All ICT companies in Iran get a grade from High Council of Informatics The grade is related to their turnover and number of employees and enables them to take apart to big tenders. In this program the companies with HCI grade below 500 are known as SMEs.
- The last and most important point is that the Intellectual property of the final product/service is completely belongs to the companies that built them.

Eligibility criteria: The steering committee has also defined some "eligibility criteria" for selecting proper projects and proper companies. For example three main criteria are as follows:

- using open source soft wares,
- Internationalization of products/services by finding markets outside the country
- The initiator of the idea that generates that project
- Using standard methods for developing the projects
- Develop the product/service in such a way to have international markets (for example developing a multilingual web site for e-commerce purposes)

Moreover, the technical committees define some eligibility criteria for each project in order to differ between final product/service delivered by different companies.
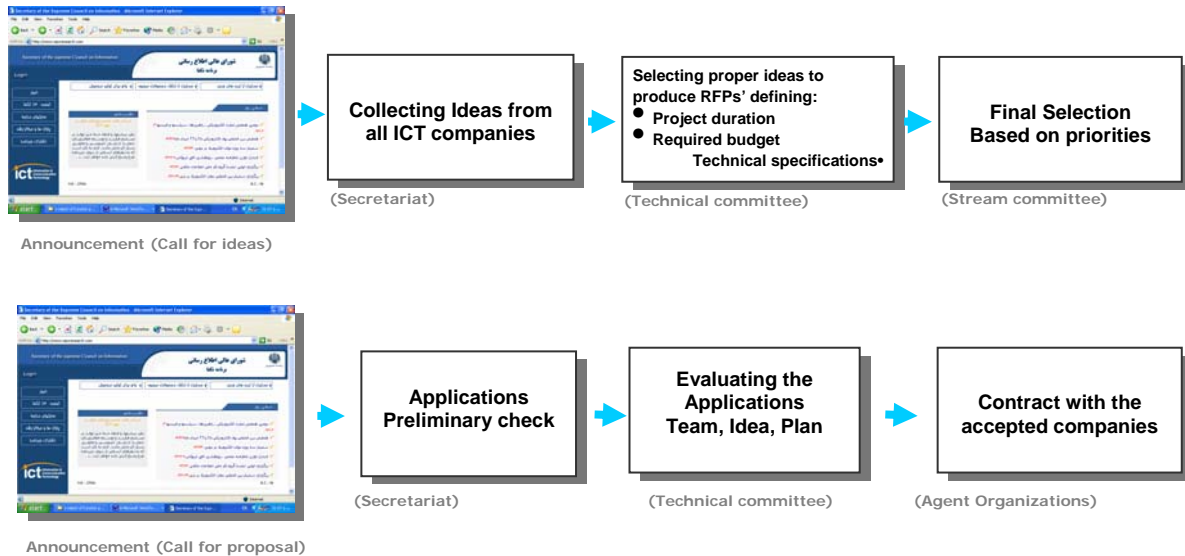
5. Program Workflow

The program workflow is shown in figure 2. In the first phase (figure 2-a), all the market oriented ideas was gathered from all ICT companies in Iran by an announcement. The individuals can also

present their ideas in this phase. These ideas is arranged and dispatched by the secretariat to the technical committees.

In technical committees, the proper ideas are screened and some request for proposals are generated based on the good ones. In these RFPs', the minimum specifications required for the final product/service, the time duration expected for finalizing the project and the total budget that is required to build the product/service is clarified. To create an incentive space, the selected ideas are awarded by the committees.

The defined projects (RFPs') prepared by the committees then passed to steering committee for final approval by applying an overall priority based on budget limitations and program segmentation.

Figure 2: Workflow of the program

In the second step; as depicted in figure 2-b, a call for proposal is run by an announcement. All the ICT companies can apply for the proposed RFPs'. Applications are passed through a preliminary check by the secretariat and then evaluated by technical committees. The evaluation is based on the added value that the company put into the project such as additional technical features in the original idea, working team, and innovation in plan to reach the objective of the project. To achieve a competitive environment, for each project up to 3 applications are accepted from companies to receive the grant. In the last stage, the agent organizations contract with the accepted companies.

Final evaluation of products/services

The companies are under the control of technical committees in the period of the project. In other words, the committees periodically monitor and coach the projects.

At the end of the time period of each project, the similar ones are evaluated in one session by the technical committees, to compete with each other. The final products/services are put into four categories:

- Winner: among the companies doing the same project, one of them that meets all of the required specifications. The winners will be awarded and take additional grant in the final festival.
- Accepted: the accepted projects/services are ones that fully completed the product/service but do not have a birriliant advantage over the others.
- Incomplete: The companies with incomplete projects under the specific circumstances will have this opportunity to take 25% of additional time period to complete their project.
- Failed: Companies that have failed their project will be obliged to return back the grant. The companies that fail the projects are then put in to a black list.

6. Outcome of the program

In the first phase of the program dated February 2004 – February 2005, about $2.6 million of seed funding was injected by the government. Since that only half of the budget needed to run a project was supported by the government, so the other half was provided by the private sector. As a result, the total turnover of the program was $5.2 million.

In a time period of about 3 month for gathering the ideas, more than 1600 ideas were collected. After screening theses ideas, 44 Request for Proposals were generated by the technical committees.

By the announcement for these 44 project definitions (RFPs'), more than 250 applications received to the program secretariat.

After evaluating the proposals, 120 proposals were accepted by the technical committees and then contracted by the agent organizations. It means that about 3 proposals were accepted for each RFP. In other words, it was expected that this action should result in 44 new products/services in the market, each with 3 different variants.

The average grant for each company was about $22000.

At the end of the first phase of program, 17 companies among all 120 companies failed

And after evaluation of final products/services, 11 companies won the festival and took additional grant to upgrade their products.

7. Trends for the second phase

The second phase started from September 2005. In this phase and by lessons learned from the first phase, the steering committee decided to apply the following changes in the structure of the program.

The first step in the second phase is to increase the number of supported ICT companies by allocating a special grant budget ($7,800,000) for the ICT sector in 2006. This equals to %200 increase of investment in seed funding with respect to the first phase.

The second approach is to establish regional technical committees in all Science and Technology Parks (STP s') in Iran. These regional committees are in contact with main technical committees mentioned in the first phase. MPO has also considered an annual sustainable budget for the STPs' to run this program all over Iran.

And the last and most important goal is to extend the scope of the program to other technology areas in the near future.

8. Conclusions

In this paper an attempt has been made to introduce a program for promoting innovation and entrepreneurship in ICT Sector by the help of incubation industry in Iran.

The first goal of this program is to support R&D investment for high tech products and services in knowledge based companies. This enhances and creates added values in these products/services, and ensures sustainability of ICT companies.

The other goal of this program is to encourage technopreneurs to establish new Small and Medium Enterprises (SMEs) in this field.

We have also proposed a method in order to gather market driven ideas from active ICT companies

Future attempts will mainly be focused on extending the scope of the program to other field of technologies, with taking into account the weakness and gaps of the program in the first phase,

We also try to pay attention to other science and technology parks so as to prepare an collaborative environment for program management and to spread this program all over the country by the help of all science parks and incubators in Iran.

9. Acknowledgements

10. References:

[1] Mannan, Aziz, "*Enhancing the role of technology incubators in SME development through market driven R&D and smart* partnership *with academia and industry*", 2nd Iranian conference on Science and Technology parks and Incubators, March 1-3, 2005, Mashad, Iran.