

TECHNOLOGY TRANSFER BOOK of **KNOWLEDGE** with **TURKISH TTO** **GOOD PRACTICES**

Corporate Innovation System: Application of the System to an Industrial Organization Located in Ankara

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TTO Name : Çankaya University Technology Transfer Office

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Authors : Prof.Dr. Selçuk Geçim, Vice Rector

Tankut Aslantaş, TTO Manager

Res. Assist. Begüm Şahin, Entrepreneurship Services Coordinator



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Within the scope of InoSuit – Innovation Oriented Mentorship Project, a **“Corporate Innovation System”** which can be **evaluated, monitored, open to stakeholder information sharing, sustainable, featuring continuous improvement and ensuring support to design oriented projects** has been established for an industrial organization operating in machinery manufacturing sector in Ankara. The organization aims to keep customer satisfaction at the highest level by introducing high quality products and increase profitability and productivity through creating innovative solutions in design and production.

InoSuit is used as a tool to bring companies to universities and create sustainable cooperation between them.

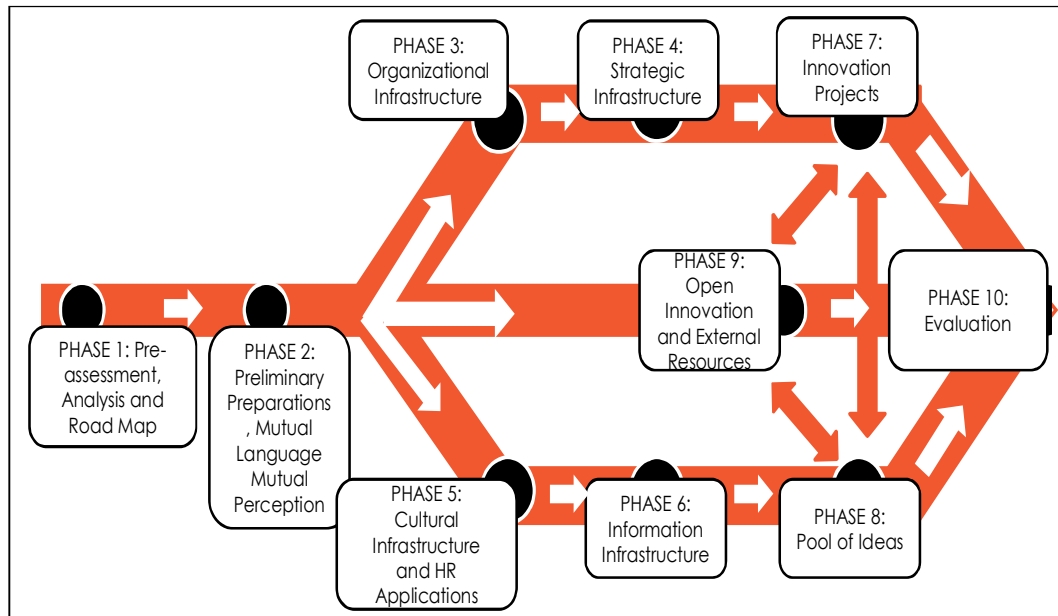
1. Introduction

The Corporate Innovation System includes system analysis and steps to enable organizations to have a measurable and sustainable innovation infrastructure. The following achievements were targeted with the InoSuit - Innovation Oriented Mentorship project realized by the Turkish Exporters Assembly (TIM):

- Establishing a systematic, integrated, sustainable approach and set of tools regarding innovation management which are in line with local conditions and culture.
- Establishing corporate innovation systems within the scope of the project, thereby ensuring sustainable growth of innovation capacities and competitiveness,
- Increasing the scientific and applied know-how in the field of innovation management in Turkey,
- Developing a Turkish resource list for the use of organizations, contributing to scientific literature within this scope through unique case studies,
- Strengthening information sharing and collaboration between academics and experts working within this area.

The roadmap regarding the Corporate Innovation System is presented below (Figure 1)

Figure 1. Corporate Innovation System Road Map



2. Corporate Innovation Infrastructure of the Organization

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a. Strategic Infrastructure of the Organization

The vision, mission and core values of the organization that the Corporate Innovation System was established has been determined within the scope of ISO 9001: 2008 Quality Management System. Short-term goals are specified under the title **“Quality Targets”** in the Quality Manual. Medium and long-term targets have not been defined. Since there is no previous **Professional Innovation Study** conducted, **“Innovation Strategies”** are not defined in writing. However, within the next 5 years, the management of the organization aims to develop its product range by supporting R&D components and to increase the number of countries for exportation.

The company participates in exhibitions in Dubai, Singapore, Malaysia, Saudi Arabia and Algeria in order to follow the technology regarding the sector, follows sectoral developments alongside promotion of their own products. However, the company does not have a written **“Technological Road Map”** and **“Innovation Portfolio”**. Since the company exports most of its products, the **“Export Market Promotional Activities”** are the most significant differentiation of the company.

Over the next 5 years, considering both the needs of the market and the current product range of the competitors within the export market, the company is considering product innovation.



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As seen in “Appendix – Innovation Score Chart Turkey General Evaluation Results” the rate of change within the market is slow and technological structure is low.

Thus, maintaining current customers is one of the most important strategies of the company. Moreover, the company plans to manufacture new innovative products and have a role in determining the technological change rate of the market.

b. Innovation Organization of the Company

The job descriptions of the employees of the company are defined in the ISO 9001 Quality Management System. The company has Quality Assurance, Purchasing, Manufacturing, Administrative Affairs, Sales-Marketing, R&D, Project, Quality Control and IT units. The R&D unit is responsible for innovation and planning of innovative ideas. R&D supervisor, with the coordination of the management, is responsible for building a team and transforming business ideas to prototypes. Job descriptions and requirements of the key personnel are valid, solely not in accordance with the **Technological Road Map**.

c. Innovation Resources of the Company

The company receives financial support from institutions such as TÜBİTAK, KOSGEB, Development Agencies, Exporters Union of Central Anatolia, and Ministry of Economy. As is known, a minimum of 25% company contribution is required for each R&D project. The company provided the mentioned contributed for products which have commercialization potential. From 2016 onwards, the company is registering R&D expenditure on the balance sheet. Nevertheless, *there is no annual planned budget devoted to R&D and innovation studies.*

The company has an “**R&D Unit**” which is responsible for the R&D projects. The basic job description of the R&D supervisor is “managing the organization personally at every stage from design to hardware and software until the end product stage, directing it and be involved personally when necessary”. There is no predefined schedule for staff in other units to devote to innovation activities. The company has benefitted from KOSGEB and TUBITAK funds and various projects have been funded through KOBİGEL and 1507 programmes.

The company has 56 employees. 9 of the personnel are involved in R&D processes (design, production etc.). One of the personnel holds a doctorate degree. The personnel have received trainings such as Project Management, Occupational Health and Safety, Trade and Welding. However, there is no Annual Training Budget allocated for increasing innovation capacity.

d. Cultural Infrastructure Regarding Innovation

The company intends to establish a sustainable innovation system within the company and with its stakeholders through innovative marketing and organizational applications, developing innovative product-

oriented production activities, prioritizing innovation in production processes. It is stated that they are involved in the InoSuit project for this purpose. The company carries out its leadership approaches through the general directorate and the basic motivation resource is the management. One of the main reasons for this is lack of *Human Resources Department*. Recruitment criteria consist of job requirements defined previously in the Quality Management System and other criteria determined by the management. *There is a lack of Performance Evaluation System where work is evaluated in accordance with the job descriptions*. Lack of a Human Resources unit or responsible personnel leads to lack of a Reward Management or Salary Management Mechanism. This means that the evaluation of innovative business ideas is in the management's discretion. Information sharing with personnel and external stakeholders are sustainable and functioning effectively. Customers, suppliers and distributors are regularly contacted via telephone and e-mail. However, there is no systematically fictionalized **Management Information System**. Therefore, the *information cannot be recorded in a single centre*.

It is regarded that the changes and / or developments that may occur in the company's current business, especially the white-collar employees, may be a cultural obstacle against the establishment of the **Corporate Innovation System**. For this reason, changes to be made in the system need to be explained to the relevant personnel and supported should be obtained. Since the management knows that the existing activities will be improved by the establishment of the innovation system, the management aims to embrace the system. It is anticipated that the level of job satisfaction will increase in current work of white-collar workers.

e. Innovation Cooperation of the Company

The company based in Başkent Organized Industrial Zone carries out activities with the OIZ, Hacettepe University, Çankaya University, Central Anatolian Exporters Union, Turkish Exporters Assembly, Ankara Development Agency, Ministry of Economy, Ministry of Science Industry and Technology, Turkish Standards Institute, Sistem Global Consultancy Limited Company, Yetkin Patent Consulting Limited Company in order to increase its innovation capacity. Previously, the company has conducted studies with these institutes regarding protection of IPR, various initial activities for process innovation, R&D project partnerships, safety testing activities for products and service qualification activities. *A Process Card was not defined for the management of collaborations and no pool was created. Increasing cooperation options come to the fore when needed.*

Since the developed cooperation activities are result oriented, once the cooperative activity is concluded the cooperation have reached its goal. *In this sense, there is no mechanism developed for integration of all employees and units during the execution of existing collaborations.*

f. Management of the Organizations Innovation Processes and Projects

The **Product Development Activities** of the organization is one of the most emphasized issues. Product development activities are carried out in partnership of all units and coordination of the management. Within the framework of the job description of the R&D unit, project financing support, protection of intellectual property rights etc. applications are made when necessary. *There is no specific method or*



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tool that the organization uses when generating new ideas. In general, the system is actuated with work orders received directly from the management, and innovative business idea requests from engineers are evaluated (time to time). The level of participation in R&D and innovation projects is governed by directives of the management and type of projects.

Outputs resulting from innovation activities are protected as Patent and Utility Model. So far, the company has 2 patents and 1 utility model. Patent and utility model applications have been made within the scope of InoSuit.

3. Corporate Innovation System Establishment Process and Experiences

a. Current Situation Analysis

Meetings with InoSuit Director, R&D Projects Coordinator and the company owner were conducted and information on the project and project activities which will be implemented in 11 months was provided. Following the signing of the confidentiality agreement, InoSuit informative e-mail and InoSuit Information Note has been shared with the company and information delivery to white collar personnel through management was ensured.

The Innovation Score Chart was filled out together with the company managers, and the comparative result graph was shared with the company authorities. The “Innovation Capacity Evaluation Report” prepared through the replies given to the Innovation Score Chart and the replies given to the questions that revealed the innovation capacity were presented to the management’s views. A “Reconciled Road Map” has been developed and the steps of the 11 months became clear.

b. Activities Regarding Innovation Infrastructure

The written mission, vision and values were taken into consideration whilst establishing the Corporate Innovation System and the organizations short, medium and long term targets were recorded and “**Innovation Strategies**” were defined. Accordingly, considering the market change rate and technological structure, targets for customer retention and to play a role in technological change rate through producing innovation based new products were set.

Within the scope of the establishment of “**Technological Road Map**”, a list of product groups to be produced until 2023 has been issued and technologies to be used, new technologies and resources were determined.

The job descriptions and guidelines for the Innovation Committee, which consists of the white and blue-collar personnel to direct the pending innovation projects, have been developed and the personnel to be included in the committee were specified.

Training on studies to be conducted within the InoSuit Project, basic innovation definitions and innovation variations were conducted with the participation of personnel who will participate in the Innovation Committee and the management.

An Innovation Library has been established in order to enhance the innovation infrastructure of the company, ensure sustainable information flow and simultaneously increase information level of all departments. The library which includes definitions and planned to be updated regularly has been made accessible to design engineers as well as to personnel who are affective in decision making and working closely in innovation projects.

4. Achievements and Conclusion

Through the “Reconciled Road Map” emerged following the evaluation report of InoSuit - Innovation Oriented Mentorship Project, the success indicators of the project were determined. The comparative table regarding the criteria are as below:

Table 1. InoSuit Success Indicators

InoSuit Success Indicators			
No:	Performance Criteria	Status at Start	Final Status
1	Number of Design Engineers	3	6
2	Number of Design Projects	5	12
3	Number of Successful International Tests	10	13
4	Number of Rapid Prototyping Centres	0	1
5	Number of Export Countries	40	48
6	Number of Exhibitions Participated	2	4
7	Number of Exhibited New Products	8	12

Moreover, nearly a 100% increase has been observed in export figures between October 2016 and October 2017.

a. Establishment of Human Resources Department:

Consultancy in the field of Human Resources has been provided to support the institutionalization of the company, to keep the job descriptions and job requirements up to date, to ensure the employment of qualified personnel to bring innovation forefront. The Human Resources Department was established and personnel were assigned for the execution of performance evaluation activities, the determination of the required training areas, reward management and wage management.



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b. Revision of Quality Management Systems:

ISO 9001 Quality Management System has been revised within the framework of Innovation Strategies and Technological Road Map. The Quality Manual, process and procedures have been prepared by focusing on innovation and quality management systems certificates were re-obtained.

c. Establishment of Rapid Prototyping and Testing Centre:

Production Development Laboratories for prototyping business ideas and testing existing prototypes were established to allow design-oriented personnel to spend more time in innovation activities at an indoor space within the premises of the company. The product groups that the company will produce until 2023 have also started to be tested at the same centre.

d. Obtaining Design Centre Certification:

In order to increase the quality and quantity of the projects and patent and utility models, an application was submitted to the Ministry of Science and Technology and the company was awarded to be Turkey's 65th Design Centre (July 18, 2017). Thus, an opportunity for tax incentives for design oriented activities was ensured.

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Appendix – Innovation Score Chart Turkey General Evaluation Results

