Defining Innovation Process Performance Measurement Criteria with a Qualitative Research: Findings from IT Sector

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Extensive Summary

Introduction

The purpose of this study is to define innovation performance measurement criteria for firms that can be used to measure the performance of innovation process and measure the participant firms’ performance through these criteria.

An efficient management process includes performance measurement. Firms have to measure their innovation performance in order to get satisfactory results from their innovation projects. For this intent, we try to define a set of innovation performance measurement criteria for IT firms.

In literature, most of the studies about innovation performance measurement focuses on measuring the innovation performance of firms with performance criteria that already exist. These studies take the innovation as an output and measure the performance of this output using criteria that only take the financial and marketing performance into consideration. Indicators like “Share of New Product Sales in Total Sales”, “Consumer Acceptance Ratio of New Product”, “Share of New Product Turnover” are usually used to measure innovation performance in these studies. But in this research, we take the innovation as a “process” and divide it into four stages for IT (software-oriented) firms.

Method

In research, we used qualitative research method because we try to define a set of measurement criteria instead of testing hypothesis with quantitative dataset. Data are collected through the interviews conducted with managers of IT firms. We used interview method to gather data as detailed information about the innovation processes of IT firms have to be collected.

Target population of our research consist of 180 IT firms at technoparks located in TR42 East Marmara Region, which is classified by Republic of Turkey Ministry of
Development and includes provinces of Kocaeli, Sakarya, Bolu, Düzce and Yalova. We used criterion sampling method for sampling. As there are many kinds of IT products, we chose the firms which focus on software production. Our sample consists of 20 firms from Gebze Teknopark, 19 firms from Kocaeli Teknopark, 6 firms from Sakarya Teknopark and 1 firm from Bolu Teknopark. None of the firms located in Düzce Teknopark meets our sampling criteria and Yalova does not have a technopark.

An invitation letter about interview sent to firms but as there were no answers sent from firms, we reached each firm by phone to get interview permission. After this period, 6 firms from Gebze and 4 firms from Kocaeli accepted to make interview. We made totally 10 interviews.

Opinions of participant managers are recorded and analyzed with descriptive and content analysis techniques.

Findings

In this research, the innovation process of an IT (software-oriented) firm is divided into four stages: “Idea Generation”, where the idea of a new product is created; “Beta Version Development”, where the very first version of a software is introduced and send to the lead customers in order to obtain their feedbacks; “Full Version Development”, where the last version of a software is developed with the help of customer feedbacks and “Sale”, where the product is launched to the market.

Measurement results show that these firms do not place importance on “Idea Generation” stage. New product ideas often come from customers or accidentally. “Beta Version Development” stage is important for firms because it is the root of the product and firms can see what the consumers demand with the product (software). Performance results indicate that the performance of this stage is high for participant firms. “Full Version Development” stage is also crucial for firms as the final product is developed and overall performance of this stage is high as well. Finally, although the managers of participant firms state that they place emphasis on “Sale” stage, measurement results show that this stage must be studied, analyzed and evaluated carefully.

Conclusion

As a result, we define a set innovation process performance measurement criteria for each stage:

Criteria for Idea Generation Step: Number of Ideas Generated in a Year, Number of Ideas Implemented in a Year, Idea Generation Cost, Level of Exploitation from Knowledge Stock.


Criteria for Sale Step: Level of Meeting Customer Expectations, Effect of New Products on Total Sales, Effect of New Products on Total Turnover, Effect of New Products on Total Profit.