

Impact of Innovation on Sustainable Business Success

Newsletter, February / March 2004

This is the third and last newsletter of the project “Impact of Innovation on Sustainable Business Success”. The purpose of this newsletter is to brief you about the progress of this project (taking place November, 2003 until March, 2004 at Clemson University).

The project team involves two members of [Clemson University](#), SC, USA ([CREDO](#) and the [Spiro Center](#)) and two members of [ETH Zurich](#), Switzerland ([ZPE Center for Product Design](#)).

Advisers of this project are:

- [Prof. Dr. Georges Fadel, Clemson University](#)
- [Prof. Dr. Caron St. John, Clemson University](#)
- [Prof. Dr. Joshua Summers, Clemson University](#)
- [Prof. Dr. Markus Meier, ETH Zurich](#)
- [Dr. Carmen Kobe, ETH Zurich](#)

Introduction:

The research objective of this thesis is to develop a business model that illustrates the impact product innovation has upon the success of a company. This objective is reached by gathering information by means of industry feedback and literary research and using this information to further refine the fundamental “Impact of Innovation” model (Figure 1), established by Dr. Markus Meier, ETH Zurich.

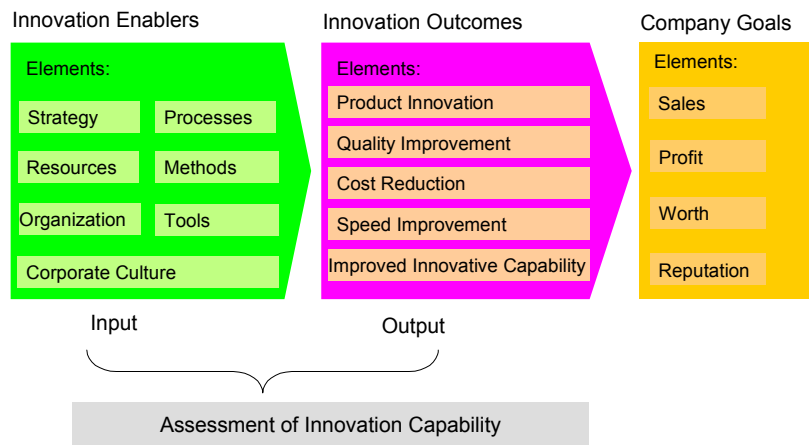


Figure 1: "Impact of Innovation" Model

The model represents the structure of a company’s product innovation by dividing it into three levels: *Innovation Enablers* (fundamental aspects of product innovation, success factors), *Innovation Outcomes* (intermediate goals of product innovation), and *Company Goals* (primary goals of a company). Each of these levels is comprised of a number of elements which are related to each other and influence the elements of the following level. It is of interest to establish which elements are the most influential in determining the overall success of a company.

Procedure:

In the first step, the fundamental “Impact of Innovation” model has been refined by integrating literary research and expertise of professionals. The levels, their elements and sub-elements have been characterized and defined in detail. They include all the fundamental aspects, the intermediate goals and the primary goals of product innovation.

In the second step, a mathematical model has been developed that illustrates the relationships between the three afore mentioned levels and their elements. This mathematical model is based on a linear approach. It expresses the qualitative impact produced by improvements in a company's *Innovation Enablers* on its *Company Goals*.

In the third step, a survey and an extensive literature research have been performed to gather information about the determining influences between the elements within the three levels and the influences upwards to the elements of the following level.

Findings:

Combining all the three steps described afore, the research-team is now able to calculate the qualitative impact of innovation on sustainable business success, using the mathematical model and the gathered information about all the influences between the elements (survey). Since the realistic parameters to run the mathematical model are not known yet, the impact has been calculated and discussed by using different parameters. The research-team came up with the following findings:

Regardless of the real life ratio between inter-level¹ and intra-level² influences, the element *Strategy* is always the top influencer. An improvement in *Strategy* (with respect to product innovation) has always the highest impact on a company's performance, compared to an other improvement of an *Innovation Enablers*-element.

With a low inter-level / intra-level influence ratio, *Resources* and *Corporate Culture* are also very important. The higher the ratio, the more important is *Processes*, until it stabilizes as the second most important *Innovation Enablers*-element. Dependant on the parameters used in the mathematical model, either *Resources* and *Corporate Culture* are the second most important *Innovation Enablers* to impact a company's performance or *Processes* is the second most important element, next to *Strategy*. At this moment, it is not reasonable to come up with more interpretations, since comprehensive parameters studies are necessary to further refine the work of this project.

Conclusion:

The high degree of agreement between Cooper's study³ and the results acquired by this thesis strongly supports the outcomes of this project and verifies that the research-team's work points in the right direction for further investigation in this field. In any case, comprehensive parameters- and real life studies are required to attain the goal of visualizing the quantitative impact of innovation on sustainable business success.

¹ Influences from one level up to the next level

² Influences within the elements in one level

³ Robert Cooper; Benchmarking New Product Performance: Results of the Best Practice Study; European Management Journal Vol. 16, No. 1, 1998

Combining all the results of this project and the Assessment of Innovation Capability developed at the Center for Product Development, ETH Zurich, leads to a broad model which allows one to visualize the impact of innovation on sustainable business success in a first qualitative manner. Therefore, the content and outcome of this project enables further steps in this research field, with the final goal of optimizing a company's product innovation in a qualitative way.

If you are interested in more detailed information about this project, please have a look at all the newsletters and the final report on our web-page: <http://www.vr.clemson.edu/credo/> → Projects → Innovation Projects → Impact of Innovation on sustainable Business Success.

This was a broad overview about what has been going on in this very interesting project. We feel that it was valuable for us to brief you about the actual state and results. If there are any questions or suggestions, please feel free to contact: <mailto:nadjaw@student.ethz.ch>.

Thank you for your interest,



[Nadja Wälchli](#) and project team members [Kerem Arsal](#) and [Matt Motyka](#)