

# Master Thesis Proposal: The role of stakeholder inertia in the Software Product Innovation Process (2 students)

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The creation of software product value is inevitably associated with innovation identification and capitalization, typically in the form of executable software features or components. As a result, innovation activities are primarily focused on elicitation, specification and verification of new functionality. The functionality could represent radical or incremental innovation; both need to represent significant novelty [1]. These innovations do not need to be developed by the firm itself but can be acquired from other firms or institutions through the process of diffusion.

Product Managers and business managers often work with products that are in the market and generating revenue for years. For many of these products, customers receive new functionalities on an incremental basis – adding new capabilities in small increments that slowly evolve the user experience. Customers learn to use each increment, adapting as necessary. In contrast, large-scale changes to the user experience are not only costly to develop, they can meet with significant user resistance as customers may not readily accept revolutionary changes to systems with which they are already familiar [3].

Customer familiarity with the current version of a product or service creates significant inertia that strongly influences future purchasing decisions. Products that are evolutionary are less “frightening” than products that are revolutionary and may experience greater market success. The Kano Model categorizes this aspect of new product as reverse quality [5].

The goal of this master thesis project is to explore the tension [2] between revolutionary innovations and customer resistance to change from the innovation creation, triage and exploitation perspectives. Moreover, the relationship between customer satisfaction, agreement to proposed requirements and the amount of ‘old features’ should be explored. Customer inertia can be highly individual and identifying an optimal blend of evolutionary and revolutionary innovation is necessary for maximizing customer satisfaction as expressed by product requirements.

The following research goals should be explored in this thesis:

RG1: Suggest ways of introducing customer inertia into innovation management models based on the work by Gorschek et al. [6]

RG2: Explore the role of stakeholder inertia in the process of preparing a competitive blend of radical and incremental innovation for the next software product.

RG3: Explore the role of stakeholder inertia in realizing innovation via market-pull strategy. It inertia an issue in this case?

RG4: Investigate how inertia influences different types of innovation (product, process, market and organization) as well as radical and incremental innovations.

RG5: Explore if certain technologies in software product have a substantial 'built in inertia' as they are adapted to non-interpretable factors like physical characteristics and limitations of the user (there is a whole field in psychology that deals with why certain things work well for humans and others do not).

RG6: Explore the role of inertia in relation to large sales effort of tech-push technologies, e.g. things that are counter to what is appropriate may be a hit, but not because they are better, but simply because they are sold as a thing people associate with "a style" they want to adhere to.

#### References:

1. Oslo Manual " Guidelines for Collecting and Interpreting Innovation Data". 3<sup>rd</sup> Edition European Commission. 2005.
2. C. Andriopoulos and M.W. Lewis, "Managing Innovation Paradoxes: Ambidexterity Lessons from Leading Product Design Companies", Long Range Planning, vol 43, 2010, pp 104-122.
3. The discussion of the results of the survey about the Microsoft's ribbon introduction can be accessed at <http://www.exceluser.com/explore/surveys/ribbon/ribbon-surveyresults.htm>
4. <http://www.networkworld.com/community/blog/offering-too-manyproducts-or-features-bad-th>
5. [http://en.wikipedia.org/wiki/Kano\\_model](http://en.wikipedia.org/wiki/Kano_model)
6. T. Gorschek, S. Fricker, K. Palm, and S.A. Kunsamn, "A Lightweight Innovation Process for Software-Intensive Product Development", IEEE Software, Jan. 2010, pp. 37-45, doi: 10.1109/MS.2009.164.
7. R. D. Deward and J.E. Dutton, "The Adoption of Radical and Incremental Innovations: An Empirical Analysis," Management Science, vol. 32, Nov. 1986, pp. 1422-1433.
8. K. Wnuk, R. B. Svensson and D. Callele " The effect of stakeholder inertia on product line requirements", In RESS'12 workshop. The draft is available at this address <http://cs.lth.se/fileadmin/cs/KrzysztofWnuk/EffectOfStakeholderInertiaOnProductManagementCRC.pdf>