



Contents lists available at ScienceDirect

Industrial Marketing Management



Innovation forecast: Un-avoidable *and* context dependent

Alexandra Waluszewski ^{a,*}, Malena Ingemansson ^a, Håkan Håkansson ^b

^a Uppsala University's Center for Science & Technology Studies (STS), Box 513, 751 20 Uppsala, Sweden

^b Norwegian Business School, BI, Department of Innovation and Economic Organisation, 0442 Oslo, Norway

ARTICLE INFO

Article history:

Received 10 January 2014

Received in revised form 28 March 2014

Accepted 29 March 2014

Available online xxxx

Keywords:

Innovation

Forecast

Resource mobilization

Context

ABSTRACT

In order to mobilize the necessary resources for innovation forecasts are unavoidable. However, a forecast is never a neutral or objective assessment. Given an interdependent business landscape, there are at least two major context-related aspects that affect an innovation forecast. First, the actor that makes the forecast is embedded into a specific context. Secondly, the potential innovation stems from a specific environment, and will during the innovation journey be related to other environments in a producing and a using setting, and thus to other investments in place. In this paper we examine the development of one innovation and the forecasts made by three different economic actors. There is an interesting variation in the forecasts that can be explained as a variation of contexts of the actors. The contexts influence the way that the forecasts are done and especially in terms of what the context of the innovation is assumed to be. The empirical findings suggest that the results of the innovation forecast are highly dependent on the actors' abstraction of the business landscape which in turn is affected by the contexts of the actors.

© 2014 Elsevier Inc. All rights reserved.

1. Introduction: Forecasts as a context dependent phenomena

In the late 1990s a radically new way of carrying out DNA sequencing was presented in an article in *Science* (Ronaghi, Uhlén, & Nyrén, 1998). In the wake of the HUGO¹ era, both the researchers behind the method and a number of economic actors were considering the possibility of turning the invention into an innovation which could contribute with scientific, technological and economic benefits. At least one thing stood clear in beforehand: to transform a theoretically described method to a user friendly commercial analytical instrument would be a rather costly process.

Thus, what all of these economic actors experienced was the need to make forecasts. The uncertain but necessary future earnings had to be forecasted and compared with immediate and future costs. However, making reliable innovation forecasts; covering the final outcome in terms of both costs and benefits, is a recognized challenge. For example, metaphors such as “the innovation journey” and “moving in a rugged landscape” have been used as illustrations of all the in beforehand hidden “hills”, “curves” and unexpected events that any invention have to pass before eventually becoming a widespread innovation (Håkansson, Ford, Gadde, Snehota, & Waluszewski, 2009; Van de Ven, Polley, Garud,

& Ventkatarman, 1999). Hence, making innovation forecast is both necessary and difficult.

The aim of this paper is to shed light on the phenomena of innovation forecast in an interdependent business landscape; i.e. characterized by the exchange of resources which are economically heterogeneous and whose value are dependent on how they are combined across organizational borders (Håkansson et al., 2009). Based on this presupposition, our research proposition is that forecasting is a context dependent phenomenon. Firstly, the business actor making the forecast exists in a specific context. The forecasting actor probably has specific relations to some counterparts, where resource investments have been made, and which will affect the expected role of the innovation as well as the forecast – for example in terms of what economic principles are used to make the forecast. Secondly, these principles can vary in terms of what kind of context the innovation has and will have in the future. During the innovation journey it will be related to other contexts, where not only the actors making the forecast might have a role – but also other actors, representing other relations and investments in place (Håkansson et al., 2009; Tidd & Bessant, 2013; Van de Ven et al., 1999). The overall research question concerns *how this double context logic affects the forecast and the estimations made*.

In order to approach the research question of this paper, we will utilize an empirical investigation concerning the forecasts made by three different economic actors. What these actors have in common is that they are all engaged in making forecasts concerning the opportunity to invest in the transformation of a research discovery to an innovation, including estimating the impact of its future commercial context. Based on the recognition that the discovery corresponded to an important

* Corresponding author.

E-mail address: alexandra.waluszewski@sts.uu.se (A. Waluszewski).

¹ Human Genome Organization project – a US governmental project that set out to sequence the entire human genome – it was instigated in 1990 and considered finished in 2003.

societal and economic need; to carry out fast and accurate DNA analysis, two of the economic actors, a venture capital firm and a governmental policy agency, forecasted a very successful outcome. A third economic actor – a process equipment company – was however a bit more skeptical. In the following sections we will investigate what aspects of the context each forecast was based upon. We will also consider what aspects of the context actually intervened in the trials to transform the new solution to a successful innovation.

The paper is organized as follows: in [Section 2](#) the need for making forecasts is discussed, and the research design is presented. In [Section 3](#) the innovation and the innovation process in focus is presented. In [Section 4](#) the different types of forecasts used by the three actors is described and analyzed. And finally, in [Section 5](#) the role and function of economic forecasts are discussed.

2. The need for forecasts

Any representative of a private, public or business economy is more or less forced to make forecasts as soon as any decision concerning economic investments has been or is to be made; i.e. where there are substantial costs before earnings. A forecast is always a guess about a future state – but in order to make decisions economic actors have to accept making more or less reasoned guesses. Taking a private loan for a house or taking a company loan for a facility – both types of decisions are based on some type of predictions of future events and consequences; i.e. that there are some obvious connections between the present acting and future outcome. Thus, everyday economic actors have to make decisions that are based on more or less explicit forecasts. This is especially the case in innovation attempts; for example as when a larger investment is considered, with the attempt to transform a new idea into a new product and service. When forecasting, for example the sales of a yet unlaunched product, the expected future will be grounded on a mix of present facts combined with a view of expected future changes.

If, as assumed above, innovation forecast is a context dependent phenomenon, then both the contexts of the forecasting actor and of the invention/innovation have to be taken into consideration when assessing the basis for the forecast. Every economic actor making a forecast is doing it in a certain context. The actor usually has a certain specific role in relation to the forecasted item and also a set of specific counterparts. The reasons for doing the forecast are related to this context and so is the role of the forecast. But this is not the only context that is of importance. The context of the invention/innovation is also important. What kind of industrial structure is the potential innovation expected to be a part of? When doing the forecast the actor must have a view of how this context will look like. Together, it means that these two types of contexts will affect both the way that the forecast will be done as well as which factors will be taken into consideration. A forecast is in this way never neutral and objective – instead it is a product of the characteristics of the forecasting process. It will be influenced by the context of the actor which will influence the role and function of the forecast and furthermore by the assumed context of the future innovation which will affect the interpretation (consciously or unconsciously) of the history and the present ([Håkansson et al., 2009](#); [Tidd & Bessant, 2013](#)).

Given an interdependent business landscape, any forecast will be affected by both these types of contexts. Still, the need for innovation forecasts is unavoidable. The three economic actors and their innovation forecasts that we will consider all have to make a decision if they are going to invest in an innovation process long before there is a defined product or any defined use of a product. The forecasts that the actors are making have to be built on some kind of expectation thinking – how the future will be created out of existing circumstances that in turn have more or less of historical roots. In this situation they have all applied, more or less consciously, rather different kinds of forecasting logics.

2.1. Research design

In order to identify and characterize different forecasts, we will utilize a large empirical study of the relation among scientific research results and industrial renewal in the life science setting, which started in 2001 and is on-going. The point of departure was an investigation of the development paths behind the life science companies located in the Uppsala region in Sweden, in which the main historical and contemporary resource interfaces of 25 companies, including how these were activated in a supplying and a using setting, were investigated. This meant that the study included all companies in the region which had developed to the point where they had a product/service under development, including emerging interfaces with a supplying and a using setting. This main part of the study was complemented by an investigation of the policy view on the emergence of this industry. The identified companies were investigated in 2001, 2003 and 2004. About one hundred personal interviews concerning each company's direct and indirect resource interfaces were carried out ([Waluszewski, 2004](#)). During 2011 the investigation was complemented by a collection of secondary data concerning each company's present stage.

One of the development paths, or innovation processes, mapped in the overall project became the object of three related, detailed studies. This specific development path concerned an attempt to commercialize a new gene mapping method, considered as a significant scientific breakthrough. A first study focused on the influence of venture capital in this process. The research question concerned how the venture capital firm's view on the relation among research results and commercialization intervened in the creation of a physical product and in the embedding of this in a supplying and a using setting ([Strömsten & Waluszewski, 2012](#); [Waluszewski & Wedin, 2003](#)).

The second, and the most encompassing investigation of this specific development path was undertaken in a PhD study made by one of the authors of this paper, on how the future benefits of the new gene mapping method was considered in three different settings; an academic research setting, a venture capital financed producing setting and a user setting consisting of private companies, academic research departments and public health care organizations ([Ingemansson, 2010](#); [Ingemansson & Waluszewski, 2009](#)). The main research question concerned how the future economic benefits of the new gene mapping method was considered in each setting – and how these were empirically outlined when the method was embedded in each of them. The third study was a complementary investigation of how the future benefits of the gene mapping method in a commercial setting was interpreted by Sweden's Innovation Agency 'Vinnova', one of the financiers of this development process ([Waluszewski, 2011](#)).

We will utilize the empirical data collected in these three studies in order to illustrate how the gene mapping method appears as a commercial product, given the way that the forecasting is done. We will illustrate how the forecasting made by three specific actors and related analysis is based on different logics and context-related factors. The first analyzed actor situation appears when the gene mapping method for the first time is exposed to a forecast in terms of the ability to transform it to a commercial product. The expectation of the actors behind the commercialization attempt is that the future of a product based on the gene mapping method will appear bright enough for one of the world's largest suppliers of bio-analytical equipment, Pharmacia Biotech (later merged with Amersham Biosciences, today GE Healthcare), to engage in the commercialization process. It is this actor's use of forecasts that is at the heart of the first analysis.

The two following analyzed actors' uses of forecasts are identified when the gene mapping method is exposed to a venture capital firm's attempt to commercialize it. The second analyzed forecast is the one made by the venture capital firm, which results in substantial investment in a start-up company based on the gene mapping method. The venture capital firm also applies for innovation support from a governmental policy agency, which is the third analyzed actor and forecast.

Download English Version:

<https://daneshyari.com/en/article/10496120>

Download Persian Version:

<https://daneshyari.com/article/10496120>

[Daneshyari.com](https://daneshyari.com)