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### **Book review for the Journal of Innovation Economics and Management**

**Elie Ofek, Eitan Muller and Barak Libai (2016), Innovation equity: assessing and managing the monetary value of new products and services, The University of Chicago Press.**

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Innovation studies are a field of research that goes back more than half a century ago and has been the subject of an extremely extensive literature in both economics and business science. It is therefore reasonable to assume that innovating in innovation studies and innovation practices is becoming more and more difficult. The book by Elie Ofek, Eitan Muller and Barak Libai refutes such a hypothesis. It identifies an important gap in innovation studies, namely the lack of a satisfactory method for measuring the expected monetary value of an innovation. Indeed, it seems that, paradoxically, the manager is not always seriously concerned about this commercial value and that he/she does not have the right tools to measure the business opportunities and the return on investment (ROI) of the innovation. Thus, when performed, this measure is most often the subject of a random guesswork. This gap is surprising given the strategic importance for innovating firms of the question of the monetarization of innovation. It should also be noted that it has escaped the vigilance of the recent programmatic work carried out by Ben Martin (2015), which aims both at reporting on the twenty main advances in innovation studies since their advent and the twenty major challenges that innovation scholars will have to address over the coming decades. Elie Ofek, Eitan Muller and Barak Libai are therefore to be commended for their clear-sightedness in identifying this gap and especially for the masterful way in which they managed to fill it.

“Innovation equity” is not only a book that addresses an essential theoretical and managerial issue, but it is also a book that it is a great pleasure to read. Indeed, while addressing an extremely complex topic, and without waiving the least scientific rigor, the book manages to avoid traditional academic austerity. It is thus written in a simple, lively and very pleasant style which often does not lack of humour. It is regularly illustrated with concrete cases and anecdotes from the real life of companies. The large list of innovation cases thoroughly discussed include: Segway, Google Glass, iPad, satellite radio, Dropbox, electric drive vehicles, Apple iPhone, Samsung Galaxy, Facebook, etc. The book is particularly streamlined in terms of scholarly references and mathematical modelling. This lack of references and mathematical models within the text can be confusing, at first, for academic readers. These elements are in fact simply dissociated from the body of the text and they appear at the end of the book, at the disposal of the interested reader. The “key takeaways” proposed in each chapter following the conclusion provide a list of the main results of the chapter and reflect the great pedagogical skills of the authors. All these formal qualities combined with its

intellectual and managerial interest will undoubtedly contribute to the rapid and wide diffusion of this book among readers, in the academic sphere, but also, and above all, among a broad public of practitioners and innovation students.

After a short introduction that perfectly sets the scene, the book is organized into nine chapters. The first two chapters establish the theoretical underpinnings of the proposed analysis. Indeed, understanding and measuring the commercial potential of innovations rests on two essential pillars: how the population adopts innovations and how the financial interaction between the firm and its customers evolves over time.

Chapter 1 is devoted to the presentation of a standard diffusion model of innovation and chapter 2 to the presentation of a standard customer lifetime model. Chapter 1 reconstructs, in a very simple way and with a pronounced sense of pedagogy, the basic diffusion model by articulating the social forces and the individual forces that govern the probability of adoption and market penetration. First of all, it proposes a numerical simulation which makes it possible to envisage diffusion curves having different forms according to the levels of the individual and social forces. It then proposes a real-life application in the case of “satellite radio” and examines the managerial implications of the different forms of diffusion curves.

The financial interaction between a firm and its customers is not a dated event, fixed at a given moment. It fits in and evolves over time. In other words, the financial value of an innovation depends on the ability to maintain customer relationships over time. It is to this important question (the second pillar of the innovation equity framework) that chapter 2 which describes the “customer lifetime value model” (CLV) is devoted. Again, this is a well-known and widely documented issue in the field of marketing. The main quality of this chapter is to deconstruct this CLV model into its various building blocks and to provide a great simplicity reading of the model.

However, it should be noted that this consideration of the customer lifetime and the idea that “diffusion + prospective customer lifetime value = innovation equity” leads here to a blurred and general representation of innovation. Innovation cannot be reduced to its original form, but it also covers its more or less important changes over time. Thus, the greater the gap between the initial form of innovation and its modified form, the more one may wonder whether it is the same innovation whose monetary value (the ROI) is calculated. This point is partially addressed in chapter 7, which takes into account several generations of innovations.

The articulation of these two basic models of innovation diffusion and of customer lifetime value contributes to establishing an “innovation equity framework”. The other chapters of this book offer a series of concrete refinements of this general framework.

Chapter 3 reviews a series of marketing actions that can be undertaken to increase the perceived value of the innovation and therefore affect the innovation equity equation by impacting on different forms of customer relations: customer acquisition (i.e. the conquest of new customers), customer growth (i.e. increased profits from existing customers), customer retention (i.e. customer loyalty). These actions include among others: advertising using different media (television, Internet, radio, etc.), pricing strategies, seeding of product samples, customer referrals, etc. This chapter includes in particular an interesting reflection on the various expressions of the gratuity as a lever of innovation.

Chapters 4 and 5 are devoted to the consequences of consumer heterogeneity on the innovation equity equation. It is thus the heterogeneity of consumers (in particular the difference between innovation-forward consumers and innovation-moderate consumers) that is at the origin of a saddlelike diffusion pattern (instead of the bell-shaped traditional pattern), in which sales begin by increasing, before temporarily decreasing, and then increasing again. Thus, in chapter 4, the authors reformulate the diffusion model (established in chapter 2) in order to take account of these two different segments of consumers, in other words to develop a multisegment diffusion model.

It is also the heterogeneity of consumers that is at the origin of the “chasm” diffusion model, which describes a configuration in which the diffusion process stops, that is to say sales fall as far as social forces of diffusion are insufficient (early adopters fail to influence mainstream adopters) and as far as individual forces of adoption are weak in the mainstream market segments (as opposed to early market segments). To face this difficulty, one solution is to provide customers of the mainstream segment (or better a small sub-segment of them) with innovation in the form of an augmented solution (called “whole product”) that is likely to reduce potential problems encountered by this type of clients and to secure them. Focusing on a small sub-segment is likely to facilitate the development of the augmented solution by reducing the spectrum of possible problems (and corresponding solutions).

Chapter 6 introduces an essential variable in the dynamics of innovation and in the innovation equity framework: competition. By using once again a pedagogical approach of progressive enrichment, it starts by presenting very simple modalities of incorporation of the competition, either at the category level (for example smartphones) or at the brand level (for example Apple iPhone vs. Samsung Galaxy). Then it moves towards more complex modalities that take into account many factors that come into play in a competitive situation. The chapter thus leads to the presentation of a competitive diffusion model that takes into account the individual and social diffusion forces (within brand or cross-brand) and the attrition effects that involve different forms of customers loss for a given firm, when it faces a rival in the same category of innovation: churn (switching to a rival firm) and disadoption (dropping out of the market).

Another refinement of the innovation equity model is introduced in chapter 7 which takes into account the evolution over time of a given innovation, i.e. successive technological generations. The existence of several technological generations leads to consider different types of adopters as early as the second generation of innovation: newcomers (new entrants into the market, new adopters), leapfroggers (who go directly to the next generation of innovation) and upgraders (who substitute the new generation for the old one). The latter two categories can be the source of cannibalization of first-generation innovation.

Chapter 8 is devoted to the latest refinement of the innovation equity framework. It introduces the geographical variable and examines the factors that explain the differences between countries with regard to the speed and scale of the diffusion of innovation and the ROI. The main factors in question are demographic, economic and cultural. The chapter thus provides a reminder of classic results: the diffusion potential of an innovation is correlated with the size of the population (i.e. the size of the market), the per capita wealth, the national culture according to its degree of collectivism (supremacy of the collective interest over the individual interest) or its degree of homophily (tendency of individuals to interact with others who are similar to them). Chapter 8 thus contributes to transforming the national innovation equity pattern into a global innovation equity pattern.

The last chapter proposes to the managers, by way of conclusion, a stimulating practical exercise: the application of the innovation equity framework to their own business (need and context). In this chapter, the various contributions of the book and the corresponding operational recommendations are summarized in the original “frequently asked questions” (FAQ) format.

The innovation equity framework progressively elaborated in this book is a comprehensive construction enriched in multiple ways on the basis of the two fundamental foundations that are the model of innovation diffusion and the model of customer lifetime value. However, it is possible to consider further enrichment according to a number of perspectives.

The first possible enrichment perspective relates to the nature of innovation. The book intends to address innovations envisaged as both new products and new services. This conception of innovation is highlighted in the subtitle of the book and regularly reminded in the text. However, the analysis involves some industrialist and technologist bias. Indeed, most of the innovations discussed are new technological products. The service innovations mentioned are consubstantially linked to technologies (often high tech). These include, for example, satellite radio services or Facebook. Thus, the analysis seems to favour a view of service innovation that service innovation studies describe as an assimilation view (see Gallouj and Djellal, 2015). Such a perspective does not envisage service innovation independently of the technical artefacts used in services or embedded into the service (or conversely the service embedded into the technical artefact). However, service innovation studies were built in opposition to a strictly assimilation perspective, considering a demarcation perspective, which, given the specificity of services (immateriality, interactivity, perishability), would emphasize the specific forms of service innovation (especially non-technological forms). For example, taking into account successive generations of innovation (see chapter 7) may be problematic for non (mainly) technological service innovations, insofar as these generations are more difficult to concretely establish, given the intangible nature of the service. The question therefore arises whether the innovation equity model should be reconsidered in order to assess the monetary value of a blurred and intangible innovation that is not necessarily incorporated in a technological artefact.

The problem of the nature of innovation can be considered from another angle. Indeed, in contemporary economies, there is a blurring of the boundaries between new products and new services and the rise of integrated “product-service” offerings, which the literature designates by a variety of different terms: “complex packages or compacks”, “Product-Service Systems”, “Product-Service Bundles”, “hybrid solutions”. The question arises how to apply the traditional diffusion models and the innovation equity model to a complex entity which boundaries are difficult to analytically grasp.

In particular through the geographical dimension, the book takes into account certain socio-cultural factors explaining the differences in terms of rates and speeds of innovation diffusion between countries (see chapter 8). However, it does not take into account (or insufficiently) certain societal factors which may hamper the diffusion of certain innovations, in particular some new services. Thus, in chapter 6, competitors are only considered as rivals in the field of innovation, insofar as they introduce competing innovations which are sources of attrition effects. But, according to an old historical reflex and within a more political register, they can also simply oppose a given innovation. Economic history relates many cases where workers revolted and broke the innovative machines they accused of destroying their jobs: revolt of

skill workers (*Canuts*) in France, Luddites revolt in England at the beginning of the 19th century. But a recent typical example is the opposition of taxi drivers to the services of private vehicles with drivers, of which Uber is the emblematic figure.

Taking into account the sustainable development issue, particularly in its ecological and social dimensions, could also enlarge the innovation equity framework. This would require a change in the perspective, a shift from a focus on the exclusive interest of the individual firm towards a focus on the collective social benefit. Indeed, part of the value of certain innovations could also be assessed in (not directly or exclusively monetary) ecological and social terms, when these innovations contribute to saving energy, preserving the environment, facilitating the social inclusion of vulnerable groups or marginalised parts of society (for example, elderly people). Conversely, taking sustainability (the collective interest beyond the private interest) into account could also lead to the reformulation of the innovation equity equation by subtracting from the monetary value of innovation the possible negative environmental and social externalities. But this is a subject for another book project.

## References

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