Innovation in emerging markets

Henrique Machado Barros
Shih Chih Hsun

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The book reveals an interesting contribution by the organizers of the manuscript who, based on a broad collective effort, present a number of nuances of innovation. The twenty-six collaborators, in addition to the four organizers, made possible a unique initiative in the country and, probably, in the world. Notably, the work shows how the concept of innovation can be (much) broader than one imagines.

The title of the work clearly indicates the expected content. However, it doesn't reveal everything; and this is so, because, in addition to presenting examples of innovation in emerging markets, the book characterizes innovation and, to a large extent, demystifies it. Moreover, the book addresses some management elements that circumscribe the various types of innovation. This does not mean that the title of the book is wrong, but it certainly does not reveal everything that the manuscript "delivers" (and this surprise is a good one!).

The extra content on management aspects does not mean that the work is intended only for managers and entrepreneurs (trained or in training). Quite the opposite; the focus of the book is not to deepen the discussion on innovation management, but rather to show the various forms that innovation can take and overturn the (probable) myth that innovation is just something totally new (and with complex technological content). Therefore, the work may be of interest to all those who want to know more about the "world of innovation", whether or not they are already involved with "it".

The book is divided into two parts: the first part explores the concepts and nuances of innovations most commonly presented in books on innovation and the second part discusses innovations more typical of emerging countries. Somehow, this just reveals to us that the innovation developed in an emerging country will not necessarily have characteristics totally different from those generated in more eco-

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nomically developed countries. At the same time, the organisation adopted by the authors confirms that the conditions of emerging countries can provide the emergence of innovations that would hardly be developed in more economically developed countries.

Part I of the book begins by exploring innovations derived from technological and research and development efforts. In this part, the initial effort is to typify the innovation most commonly present throughout the development of industrialized civilization, that is, product innovation. The book recognizes, however, that a new product is not only characterized by being totally different from what already exists. A product may have a lesser degree of novelty. This is interesting by itself because it reinforces the understanding that exists among those who "breathe" innovation; it means that an innovation is not only characterized by being radically different from what already exists. So-called incremental innovations are essential for all organizations that want to become innovative. Even without having such a technical appeal, it is precisely the incremental innovation that allows the continuity of the improvement of what, in the past, was configured as a radical innovation. The book, at this point, elaborates on some aspects of product innovation, since the frequency engaged by manufacturing companies with product innovation to the characterization of the portfolio of product innovation projects that the most innovative companies usually have, passing through the own innovation development process.

After the well done characterization of product innovation, the following content outlines another type of innovation: process innovation. In the previous discussion on product innovation, the book highlighted the relevance of process innovation, especially for emerging economies. However, it is in the part dedicated to process innovation that the work effectively qualifies what a process innovation is and shows its real importance. The book draws attention to the fact that process innovation is not limited to the production process of a tangible good; new distribution methods can also be created and implemented. Furthermore, the text highlights that process innovation is not restricted to the manufacturing industry and lists some examples of process innovation in the service industry. It is true, however, that the text in its opening part highlights more product and process innovations in the manufacturing industry. To a large extent, this is due to the evolution of society itself and the industrial context in which it developed. However, it is also true that the book pays attention to innovation in services after dealing with these more traditional types of innovation.

The interesting contribution given by the text regarding the innovation in services is precisely the reflection on the challenge to characterize such innovation. As noted in the work, one of the factors that hampers the characterization of services innovation is the fact that services simultaneously comprise both the product (which is the result of the service) and the process (that is, the execution of the service). The book also explores other nuances of services that distinguish them from the tangible product and addresses some implications for defining service innovation. And in the same way as the degree of novelty of innovation is explored when product innovation is presented, the book reveals the ways in which services innovation occurs and the degree of novelty involved. The discussion of innovation in services concludes with the presentation of six dimensions that allow an understanding of how to apply innovation in services.

To complete the initial content, the book defines, exemplifies and (why not?) clarifies what disruptive innovation is. This part of the book is particularly interesting because the conceptualization of this type of innovation may surprise naïve readers. The concept of disruptive innovation "gained a life of its own" in the market (in Brazil and in the world) and this contrasts a lot with the conceptual definition. The book makes this clear and also offers an understanding of how the concept of disruptive innovation affects organizations and challenges the more traditional way of thinking about innovation. Finally, the content on disruptive innovation points to the refinement of the concept, highlighting how disruptive innovation can evolve according to the nature of the market (i.e., new markets *vs.* existing but less attractive markets).

After presenting the innovations derived from technological efforts and research and development, the book addresses the less classical innovations, but which have been dealt with for some time by scholars on the subject. These innovations, however, are more evident to the readers in more recent time, with the evolution of information and communication technologies. The book calls such innovations business-oriented and comprises business model innovations, organizational innovations and marketing innovations. Thus, the book advances in clarifying what a business model is and explains how innovation can be integrated into the business model. The text takes the opportunity to, at this moment, present the concepts of closed innovation and open innovation and then to point out some theories about business models.

Following the flow of discussion on business-oriented innovations, the book defines and exemplifies organizational innovations, which are not limited to changes in organizational structures. Based on the definition of organizational innovation, the book explains the dimensions of organizational innovations and describes the main determinants of organizational innovations, elucidating how leadership, managerial levers and business processes induce (or inhibit) organizational innovations. And continuing the discussion of innovations non-derived from research and development activities, the book characterizes marketing innovation. The explanation of innovation in marketing goes through the presentation of innovations in product design and packaging, in positioning, in promotion and in prices. Each dimension was qualified and accompanied by examples to illustrate the concept.

To a large extent, the discussion of the book up to this point has been based on the assumption that the innovation process must be an activity that creates economic value for the firm. The book, then, broadens the understanding of the concept of innovation, explaining what innovations are oriented towards public organizations and towards sustainability. The first rarely receives attention from innovation books, usually more interested in exploring the innovative context of the corporate world. The second becomes more and more relevant due to the increasing restrictions of natural resources.

The presentation of innovation oriented to sustainability issues, also called eco-innovation, is made from the explanation of what this type of innovation is. Then, the text presents the principles that govern eco-innovation and a classification proposal found in the specialized literature. Finally, this part of the book ends with an example of how power generation has been affected by this type of innovation. Innovation in public administration is characterized afterwards, in which the context of public administration is presented, as well as its purposes and challenges. Always accompanied by examples, the text lists the main innovative aspects of public administration as well as the principles of this type of innovation. Unlike previous presentations, the content of innovation in public administration further deepens the discussion of the context. To a large extent, this deepening is due to the limited discussion of this type of innovation in the specialized literature on innovation. It is interesting to note how the work reveals that the purpose of public administration enhances a range of opportunities for the development of new solutions.

The characterization of innovations in this part of the book (Part I) was supported by both examples and more detailed cases that allow for a better understanding of the various types of innovation and enable a thoughtful assessment on the impact of innovation on organizations and society. Part II of the book is dedicated to exploring innovations typical of emerging markets; this adds a layer of complexity due to local contexts' specificities that companies from developed countries are unaware of. Different from the first part of the book, which describes the manifestation of some traditional innovation practices in emerging markets, the second part immerses deepens into innovations emerged in business environments characterized by institutional voids, such as Brazil, Russia, India and China, where the lack of a munificent factor market demands different approaches and strategies from firms.

Part II organizes and divides the typology by different flows of innovation: from emerging markets to developed ones (reverse innovation), from within companies to the market (*inside-out* innovations) and from the market to companies (*outside-in* innovations). When reading further, the more attentive reader will notice that the "flow" has similarities with the "orientation" of innovation, which is the basis of the structure of Part I. In this sense, the flow of innovation should not always be interpreted in its literal meaning. As innovation is a dynamic phenomenon, the flow criterion can often make one innovation strategy to have characteristics of another, which depends on the perspective taken. Still, unlike the first chapters that always start with the definition of the typology of innovations, the second part presents case studies before the more conceptual explanations. This change may require more attention from readers.

Reverse innovation is characterized by the transfer of innovations initially designed by the specificities of less developed markets to developed countries and adding adaptations to the offerings to the latter. As the phenomenon starts particularly in multinationals looking for new markets outside those already saturated, the main antecedents are the necessity to innovate for different demands in various markets. This implies an evolution of multinationals' strategies as well, where the traditional global strategy (i.e., global standardization of products) evolves to a multi-domestic strategy (i.e., globalized products suited to local needs) and, finally, to the transnational strategy (i.e., to standardize where it is possible and to adapt where it is necessary).

Due to different local contexts, it is necessary to change the organization's focus in order to detect local needs and preferences and, at the same time, to avoid losing alignment with the global vision. A foray into emerging markets can spark competition initially restricted to these markets. On the other hand, once successful, reverse innovation provides an opportunity to capture competitive advantage over competitors as well as to instil the growth of the customer-base. However, historically, reverse innovations are rare and success stories can seem like a fluke. In the case of a portable electrocardiogram device in India mentioned in the book, the multinational that initially developed it was unaware that the innovative product could later represent a success in developed markets.

For reverse innovations to occur, the challenge exists from the prototype introduction into the emerging market, that is, before it goes back to developed markets. The products should be adapted to local necessities, both in intrinsic attributes of their functionality and in meeting the local technical requirements for their operation. Furthermore, in addition to global alignment, local stakeholders should be traced and their needs cannot be summarized only in cost reduction in exchange for less functionality, i.e., the strategy of less for less.

The *inside-out* innovations covered in the book are frugal innovation, cost innovation, and shanzhai innovation. Rather than a specific typology of innovations, the book considers them as the strategies to innovate within organizations. This internal perspective guides the way in which specific strategic resources are used so that, together with dynamic capabilities, firms can grow up and obtain superior performance against the threats from the external environment.

Frugal innovation refers to simple solutions and products that bring in their concept design principles only with essential elements to their functionality, without superfluous accessories. It is a strategy that seeks to do more with less, offering emerging markets products that are accessible to people with fewer resources. As it is inclusive (doing more) and sustainable (for less), Mahatma Gandhi's philosophy is mentioned several times as a way of characterizing frugal innovation. Innovation comes when "Gandhi engineering" promotes the construction of new product architectures and new business models in such a way that unnecessary costs are eliminated and without losing the most important functionalities to meet essential needs. Frugal innovation differs from cost innovation because the latter means offering similar functionality to existing ones at a lower cost. The initial case of the chapter – 3D printer models in Brazil – illustrates how to combine low cost with different sets of features to meet the specific needs of each audience.

Frugal innovations are supported by three dimensions. Cost savings should be substantial, which can range from physical attributes such as raw materials to processes and new designs. To keep costs low, products should stick to the truly essential functionality, yet without sacrificing performance. Finally, innovation should be in sync with environmental and social sustainability, such as the most sustainable materials, and to be part of the frugal ecosystem, i.e., the relationship with partners, competitors, suppliers and customers and other typical production factors in emerging markets. The aim is thus to readjust the organization so that frugality is present in all processes, covering products, solutions, the company and the emerging country.

Cost innovation is to develop and offer high-tech, variety and personalized products at lower prices than those established competitors already offer and, therefore, provide better value for money to customers. To make it feasible, mass production is essential, which, in turn, is related to the three necessary dimensions: high technology at low cost, production modularization and high-volume niche production.

There are several forces in the market that positively or negatively impact companies according to different innovation strategies adopted: the great demand from emerging markets that changes the consumption profile, the shift in workers' incomes between mature and developing markets and the power of networks of global retailers that impose the practice of low prices. No wonder, all cases reported in the chapter refer to China, such as the mass production of laptops, the mix of modular products related to baby pushchairs and the massification of climate-controlled cellars.

Shanzhai innovation, or imitation-based innovation, has great potential for wealth generation according to some studies. Despite the bad reputation brought by the “xing ling”[1] products mentioned in the book, it can be a great driving force for innovation if companies are not limited to just copying but rather to innovate using imitation as a strategy. Shanzhai innovations aim to maximize the benefits of industrial clusters by integrating internal and external resources as well as production chains. Once established in the market, the company can impose and reinforce resource savings in operations and in the process for developing new products. From this perspective, all developed economies have already gone through the *shanzhai* innovation phase, like the US relative to Europe and Japan to the US.

Progress from imitation to *shanzhai* innovation follows a few steps. In phase 1, the main objective is to identify an interesting set of features that can be copied at low cost. For this, the ability to implement and manage the business is essential. In phase 2, product enhancement begins to reduce the quality gap in relation to copied originals, adding additional layers and modularization to extend the features and benefits in the imitated product. At this stage, R&D capacities begin to be required. In phase 3, the company already endowed with experience and production and R&D capabilities starts to generate and to add innovations to existing products.

The decisions for the *shanzhai* innovation strategy need to be made observing some aspects, which the authors call 4Fs: *Fast* (quick, or the speed of imitation), *Frugal* (economical, or paying attention to the essentially economic features and, therefore, low cost without sacrificing quality), *Fit* (adjusted, or adapting the offer to the location, such as the market and target audience) and *Fad* (mania, taking advantage of market and fashion trends).

The *outside-in* innovations covered in the book are *grassroots* innovation, *jugaad* innovation, and native innovation. This set of innovation strategies is closely linked to the institutional void, which is reflected in the precariousness of infrastructure and public services, to which citizens and civil organisations are forced to face and create solutions. Due to the necessity to enable ideas in real solutions – whether products or services – companies are often involved with initiatives to provide the means for operationalization. This movement from the community to the companies is the origin of *outside-in* innovations, whose orientation towards the external environment is analogous to traditional innovation with a focus on the market. However,

1 Cognomen of Chinese products (in particular, those of low quality) used in the Brazilian popular vocabulary.

outside-in innovations devote more resources to the structure of knowledge-generating products and to meet the needs of the target audience, communities and citizens that comprise it.

The first of the three strategies, *grassroots* innovation is defined as a network of activism and organizations that generate solutions for sustainable development and local problems. At first, it has no commercial motivation and does not depend on government support, public institutions or companies.

The *grassroots* innovation process begins with the identification of the problem through social organization in search of the best solution, and then trains and develops people to execute the projects and replicate them to other locations. All stages must observe the sustainability tripod in economic, social and environmental development. In addition to the cases of small cashew producers in Northeast Brazil benefiting from the structure of the production value chain set up by social organizations and the Honey Bee innovation network formed by collaborators and partnerships from dozens of countries, the book presents a case study that curiously does not fill the *grassroots* innovation requirements.

The case of “bottled light” that begins the *jugaad* innovation scrolls through the entire text and sets the tone for the strategy that is born from the scarcity of resources, a characteristic of emerging markets, which demands practical and inexpensive solutions. Of Indian origin, the expression *jugaad* innovation refers to the practice of improvisation to overcome adversity, thus dispensing with the large R&D structures of traditional innovations. Despite the same proposal to do more with less, it is more than frugal innovation. It aims more at the collective goods than at individuals. It represents a way of thinking and acting, which can be assimilated by companies to find opportunities in adversity by doing more with fewer resources, being flexible to adapt to the context with speed, simplifying to serve more people focusing on their needs instead of their desires and to include the excluded. In other words, *jugaad* is a *mindset* that demands social intelligence capacity and guides the motivation to innovate to serve those in need.

The indigenous innovation refers to knowledge transfer flows occurring from developed countries to emerging markets and is therefore beneficial for local entrepreneurs at the base of the pyramid. In the context of Research and Development (R&D), the transfer of technology, notably, takes place mainly between multinationals located in different countries, usually between the more and less developed ones. As it often involves foreign direct investment (FDI) and joint ventures, the role of public and private institutions in capturing knowledge spillover arising from multinationals´ R&D to local companies is relevant. In addition, investments in R&D at the regional, sectoral and company level are needed to strengthen absorptive capacities through human capital. The ultimate goal of indigenous innovation is sustainable economic and social growths through the development of local innovation capacity and extension to the national innovation system.

Indigenous innovation strategy starts from questioning whether FDI alone can actually provide sustainable development – in addition to competition with local companies. Therefore, there is a necessity to promote the diffusion of technologies and their adoption locally so that the emerging country can develop more quickly. The knowledge spillover occurs through several channels, such as the movement of goods, capital, people, partnerships between researchers, the knowledge spreading and the integration of the global value chain. For multinationals, once indigenous innovation is successful, the results can even be reverted back to developed markets, thus characterizing reverse innovation. Although China is pointed out as the possible origin of this strategy, the chapter reports the case of a Brazilian agricultural research institution and the successful knowledge transfer to the African continent, with benefits to nations in worse conditions than Brazil.

The book is a generous contribution to the understanding of the various ways in which innovation manifests itself. Despite the richness, we miss a little more elaboration in some parts. For example, even though the book clarifies the difference between radical innovation and incremental innovation, it could have further explored the importance of incremental innovation for organizations (especially, those in less economically developed countries). More than that, it could have presented an analysis of the importance of this type of innovation for organizations that want to start innovating. The book also lacked a better conceptual alignment to address the difference between breakthrough innovation and disruptive innovation. As presented, the reader may be confused and assume that the discussion is about the same type of innovation, when it is not. Breakthrough innovation is a concept based on the work of Wheelwright and Clark (1993), and it is more related to radical innovation than to disruptive innovation, coined by Christensen (1997).

Another issue that could have received a little more attention is the explanation of the open innovation paradigm. Not so much for the explanation of the paradigm itself, but for the moment it appears in the book. Explaining the open innovation paradigm when discussing innovation in business models suggests the reader to believe that the paradigm was only established when organizations started to seek innovations in their business models, when, in fact, this is not the case (see CHESBROUGH, 2003). As for business models, the book presents some theories to explain such models, but it fails to point out organizational phenomena as theories. For example, the book explains the relationship between strategic alliances and business models when discussing theories about business models, suggesting that strategic alliances are theories (they are just an organizational phenomenon upon which academics theorize).

We have also missed a discussion about the concept of digital innovation. Despite the more recently popularity of this type of innovation, a prospective forward looking approach could have been articulated. On occasions, the book points out the effects of digital technologies, but it does not even “deal with” innovations in the digital world. It might be argued that digital innovations are closer to the richer countries. However, it cannot be said that digital innovations do not happen in emerging countries.

Finally, the work lacks a final chapter articulating the interfaces among different types of innovation discussed and also a critical analysis of this entire search for taxonomy in the field of innovation. Does the growing effort to typify innovations help or hinder our understanding of this organizational and societal phenomenon? Is the growing list of nomenclatures for innovations really necessary? Or are we just introducing a new guise for an already established concept? For example, is native innovation really different from product or process innovation? A critical reflection would help the reader to understand what really matters and, more than that, be more confident that, yes, innovation is possible, even in countries with fewer resources.

The book’s limitations, however, do not detract from its shine. Its content is unique and the literature on the subject will barely present such a broad and rich scope. Having said that, we return to our initial thoughts on the title adopted by the text. As we said from the outset, it is a title consistent with the book’s content, but it would be no exaggeration if the title were simply “Innovation: from A to Z”.

Undoubtedly, we encourage those who want to know more about innovation to get involved with the book, as well as we encourage the organizers to, in the near future, make efforts to update the work that, in our eyes, should be part of the core reading material in courses that aspire to qualify professionals to work with innovation.

Good reading!

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