

Introduction

In this book, we reveal the multitude of models, means, methods, as well as measures that make innovation meaningful for the masses. We advance a view of frugal innovation that reconnects this idea both with social theory and with practical action, and that challenges the often accepted view that associates ‘frugal’ mostly with cost – perhaps frugal innovation is much more complex than that. This is why we took a more grounded approach and included the context of the innovation in our conceptual model, rather than focusing on the innovation per se. We view frugal innovation as innovation for humanity comprised of multidimensional innovations in technology, social, institutional and business model. We come to this finding by investigating how social entrepreneurs conceptualise innovation, both broadly and specifically, under extreme contexts marked by institutional voids and resource scarcity. We explore these issues by using qualitative, descriptive and analytical methods to study globally networked and formally recognised social entrepreneurs. Our analysis focuses on the meso level of innovation and value chains, incorporating micro-level observations through document analysis, interviews and observations. To extend our understanding of purposeful innovation carried out in challenging contexts, we connect the theoretical framing of innovation in extreme contexts with research on social and purposeful innovation.

The approach we have taken in this study moves away from a traditional focus on Taylorian efficiency or multinational companies (MNC) towards an examination of purposeful and social impact in constraint-based contexts that market-based approaches would consider extreme. Frugal innovation entails a process of problem solving in which the needs and contexts of developing world or marginalised consumers are put first. The frugal innovator develops accessible,

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adaptable, affordable and appropriate technologies, products and solutions to address human needs in emerging markets as well as developed markets. The efficiency approach has often been under-contextual; the social approach is analytically useful because it prompts researchers to be more explicit about contingencies, process and local variation. The case of innovation by social entrepreneurs working in developing or emerging markets is one such useful context for studying the social approach. The focus on learning from social entrepreneurs provides a different, useful and extensive empirical base. Therefore, this work is novel in that it (1) starts from different theoretical premises; (2) engages more directly with the constraint and void aspects of context for a ‘process’ rethink; and (3) proposes fresh and integrative dimensions for frugal innovation.

Since its debut in 2010, literature about frugal innovation has relied on anecdotal examples or conceptual studies, often lacking strong theoretical foundations and generally reducing frugal innovation to cost or affordability. Much work cites examples of frugal innovation without providing a clear basis for the choice of cases or labels and often cite many of the same examples. Perhaps for these reasons, while the rate of publication on this topic is increasing, frugal innovation has not yet found much exposure in top journals (such as the chartered Association of Business Schools list of four-star journals, or the Financial Times list of fifty journals used to rank business schools). We are hopeful that this book will contribute to changing the situation, by providing an extensive empirical account derived from innovators, building a theoretical foundation from those insights to pave the way for further empirical work which can help to bring a higher level of exposure to the field. Our approach to understanding frugal innovation is based on the assumption that this type of innovation is multidimensional and obliquitous. Obliquity is characteristic of systems that are complex, imperfectly understood, and that change their nature as we engage with them.

It is most challenging in extreme contexts shaped by the simultaneous challenges of resource constraints and institutional voids. Despite some discussion of innovation in extreme contexts in the

development literature, organisation theory and strategic management researchers rarely touch on this aspect of innovation. Although social entrepreneurs are credited with creating social innovation, we know little about their views. Our analysis supports claims that actors are devising new innovation processes (means) and outcomes (ends) to generate business and social wealth. Social entrepreneurs, as well as multinational firms, grassroots organisations and networks of innovators, are creating the market for frugal innovations – potentially profitable and socially valuable solutions that are affordable, adaptable and accessible. And they are supported by a growing cadre of funders characterised as impact investors or social venture capitalists. This form of socially responsible investing spurs and supports frugal innovations that often result from tackling local problems of global concern in diverse fields such as education, healthcare, housing and transportation.

This study contributes to developing models of innovation in contexts shaped by institutional voids or complexities and resource scarcity. It reveals how social entrepreneurs perceive the conceptual drivers, determinants and features of innovation. Social entrepreneurs are involved in more than social innovation. They assemble offerings and ventures that may combine varied innovation approaches, are often more concerned about institutional and social innovation than about technology innovation per se, and often pack combinations of innovations into emerging concepts that resemble frugal innovation. Furthermore, we find that social entrepreneurs are more focused on resource challenges and investors on institutional challenges. The findings suggest that innovation among social entrepreneurs can be conceptualised as a multidimensional construct with three innovative process components – social, institutional and technological – that help to achieve three outcome components: affordability, accessibility and adaptability, all designed to address three main challenges, namely institutional voids, resource scarcity and affordability constraints.

One of the main goals of this study is to help researchers in organisational theory, strategy and the management sciences specify

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better models of innovation by revealing how social entrepreneurs in extreme conditions perceive innovation. Two models of innovation are used to present these findings. The first model shows ‘why’ social entrepreneurs hold a range of different views on innovation, reflecting various motivations, means and outcomes related to social, user, efficiency and challenge concerns. The second model shows ‘how’ social entrepreneurs turn to a mix of technological, social and institutional innovations to deal with, make use of, and overcome constraints. We use the models and propositions developed through qualitative insights to propose a theory of frugal innovation as an emerging ‘market’, championed and generated by the activities of both social and mainstream entrepreneurs, corporates and policy actors.

The concept of frugal innovation is a useful way to conceptualise the process of integrating existing innovation approaches in extreme contexts with more familiar processes of product innovation or business model innovation. Unlike organisations involved in high-profile innovation, such as NASA, the ‘mission’ undertaken by social entrepreneurs is often more focused on pioneering new solutions to current challenges common peoples face: i.e. to create offerings for people who live and work at the less privileged interfaces of the modern world. Notwithstanding the mundane problems, novel offerings can have a profound impact on the lives of many millions or even billions of people. This is the ‘why’ of frugal innovation: a broadly shared desire to provide consumer value and amenities that offer extreme affordability. In this research report, for example, we demonstrate with data and models that the motivations for attempting frugal innovation are diverse and range from philanthropy, social issues, challenges and markets to the search for efficiency, but are seldom reducible to cost alone.

In our research, we use mainly qualitative methods, with a particular focus on retroduction, sometimes called abduction, as opposed to a pure grounded theory inductive approach. This approach offers an iterative deductive–inductive process that helps make the research transparent and rigorous. There is no shortage of studies that

purport to use a purely grounded theory approach, in which researchers often continue to work within preconceived goals, assumptions and expectations. We tried initially to pursue a grounded theory approach, but our efforts encountered difficulties to implement in practice. The retroduction approach seemed more consistent with and reflective of the iterative sense-making process of research design, defence and implementation. Furthermore, this methodological approach helped us avoid treating perceptions as merely socially constructed.

Content analysis and thematic coding revealed intriguing results and two models of innovation. Innovation Model 1, on the views of social entrepreneurs, is introduced in Chapter 2, while Innovation Model 2, on innovation under constraints as viewed by social entrepreneurs, is revealed in Chapter 3. Chapter 4 integrates lessons from these two models of innovation to propose a theory of frugal innovation. In Chapter 5, we test the models and the proposed theory to popularly recognised published accounts of innovation, beyond those from which our findings were empirically drawn. In Chapter 6, we review emerging concepts in innovation and suggest how our findings inform specifically the literature on frugal innovation. Finally, in Chapter 7, we discuss implications that could be useful for scholars, practitioners and policymakers.

For theory, this research demonstrates that a peculiar kind of constrained innovation, captured as a concept, idea, framework or process, is being articulated by social entrepreneurs in the form of frugal innovation. Its impact and use are diffusing: bringing priorities for purposeful and social outcomes closer to mainstream entrepreneurs and large corporations. Frugal innovation offers opportunities to disrupt some prevalent assumptions about innovation, relating to its sources, lead users, patterns of diffusion and outcomes. Innovation is always subject to constraints. But in the context of frugal innovation, we find that the most significant constraints are institutional voids, a lack of resources and the need to make products affordable to low-income customers. Interestingly, these constraints or challenges are

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not unique to innovation in developing or emerging markets, but also increasingly exist in pockets of developed markets. This work is instrumental in developing a theory of frugal innovation by postulating propositions based on empirical data. The theory, models and constructs explored here will be valuable for future research.

When it comes to practice, the strength of social-value-enhancing strategies and frugal innovations that are adaptable, accessible and affordable means that firms can discover new applications and for previously overlooked market segments. The fact that social innovation in a broad sense and frugal innovation more specifically have caught the attention of policymakers suggests that this work is part of an evolving field of innovation studies and can engage a wider-impact community, offering scope for timely and relevant policy-making. These detailed constructs and relationships can help to identify various stakeholders involved in the market for frugal innovations; the toolkit offered here enables practitioners to identify and categorise the lifecycle stages of frugal innovations. However, policymakers may want to focus more on encouraging practitioners to experiment and evolve, rather than on trying to benchmark elusive and ever-changing 'ideal' innovations. For the practitioner, we characterise the ten core competencies that have proven to be successful in scaling innovations for low-resourced environments and which often emerge as solutions for broader use in both emerging and developed markets.

Our contribution to developing models of innovation in contextual conditions marked by institutional voids or complexities and resource scarcity will support future work in innovation in challenging and extreme contexts. Although we use the increasingly popular term, frugal innovation, to describe our findings, others may prefer the following modifiers: reverse, inclusive, grassroots, bottom of the pyramid, extreme affordability or *jugaad*. All of these constructs have synergies with the contextual characteristics or principles of innovation we present, characterised here as means and ends to do more with less for many.

PART I

Models of Frugal Innovation

I Outline of the Context, Literature and Methodology

I.1 THE INSPIRATION FOR THIS BOOK

This book was inspired by substantial interest in social innovation and social entrepreneurship outside of the developed Global North and the popular use of various terms and constructs that describe forms of innovation related to social enterprises. The objective of this book is to stimulate research and policy debates about the how and why of innovation that addresses the means and ends of value creation for the many, with less. We motivate this by engaging the literature of innovation studies with basic social science questions about institutional constraint and opportunity, in the context of diverse, empirically-informed contexts to understand ‘frugal innovation’, an important emerging concept for innovation research, policy and practice. Our research captures the views of social entrepreneurs, who innovate under constraints. We argue for and provide new models, methods and the beginnings of a theory of frugal innovation.

Such innovation is described using a wide range of constructs, including social, frugal, inclusive, catalytic, grassroots, *jugaad* and Gandhian innovation. We do not wish to be embroiled in the debate over broad ‘umbrella constructs’ or to act as ‘validity police’ in narrowly defining issues (Hirsch and Levin, 1999). Instead, we recognise Hirsch and Levin’s life cycle of scholarly constructs, which progresses from excitement to validity checks and then to an understanding of typologies, before either becoming stable constructs or disappearing from the literature. Our research instead builds on findings from the experiences of social entrepreneurs, to contribute to models of innovation that start from different assumptions about resources, process and purpose. This empirical move both connects different kinds of

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evidence to the discussion and also reframes some conventional assumptions in the mainstream innovation literatures (Bamberger and Pratt, 2010; Chandy and Prabhu, 2011). We present this work as an invitation for research colleagues to experiment and decide how best to further develop frugal innovation concepts, models and theories.

In this chapter, we cite the main literature, though not exhaustively as one would typically do in a literature review chapter (for detailed literature review see Bhatti, 2014), outline the questions that arise, summarise our methodology for investigating these questions and share our main findings.

1.2 THEORETICAL FRAMING FROM THE LITERATURE

Jan Fagerberg (2005) reviews the broad area of innovation studies and identifies four emphases in the research literature: ‘innovation in the making’, ‘the systemic nature of innovation’, ‘how innovation differs’ and ‘innovation and performance’. Our work builds out from the question of ‘how innovation differs’. We know how innovation differs across sectors, types of organisations and geographical locations and among entrepreneurs, managers and other individuals. However, we know very little about the ways in which social entrepreneurs (Elkington and Hartigan, 2008; Mair and Martí, 2006; 2007; 2009), rather than commercial entrepreneurs (Austin, Stevenson and Skillern, 2006; Sarasvathy, 2001; 2006), conceptualise models of innovation (Desa, 2009a; Guillén, 1994; Mair, Battilana and Cardenas, 2013; Marinova and Phillimore, 2003; Sarasvathy, 2001). Focusing on models of innovation and specifically on social entrepreneurs and the way they understand innovation provides an opportunity to study innovation outside the status quo and in unique contexts.

Our review picks up on this point: to begin to situate innovation in a broader view of institutional opportunity and constraint. We find that some research in development studies examines the way in which innovation occurs despite the simultaneous challenges of

institutional voids and resource scarcity. We found little or no work in the fields of organisation theory or strategic management that attends to these issues. We connect this finding with research on broadly social and purposeful innovation (distinct from a conventional focus on technology innovation). Nicholls and many others propose social entrepreneurial activity as market-based innovation focused on societal change (Nicholls, 2006a; 2006b; Nicholls and Murdock, 2011). Much of the research on social entrepreneurship asks who social entrepreneurs are and what they do. This population is especially relevant to our study. In our review of the literature, we show how little is known about how social entrepreneurs conceptualise innovation in extreme contexts shaped by resource constraints and institutional voids.

Research by organisational institutionalists on social entrepreneurial ventures has only thinly been concerned with the origins of innovation (Lounsbury and Crumley, 2007). Although some studies have explored how social entrepreneurs face the challenges of institutional voids and resource scarcity (cf. Austin, Stevenson and Skillern, 2006; Dart, 2004a; 2004b; Desa, 2009a; 2009b; Grimes et al., 2012; Haugh, 2005; Mair and Martí, 2009; Mair, Martí and Ventresca, 2012; Mulgan et al., 2007a; 2007b; Seelos and Mair, 2005), few analyse how innovation is perceived or understood by social entrepreneurs.

To explore scholarly and practical examples, we connect two main streams in the literature: innovation studies and social entrepreneurship (as shown in Figure 1.1). The literature on innovation (stream 1) looks at innovation faced with a single constraint: either institutional voids or resource scarcity. Few if any studies of innovation explore more complex cases, where innovation must simultaneously grapple with institutional voids and resource scarcity. The social entrepreneurship literature (stream 2) argues that social entrepreneurs often have to function and innovate in extreme conditions shaped by both institutional voids and resource scarcity.

This study seeks to advance the models and theories of innovation by bridging a gap in the literature between studies of innovation