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Gearing up for growth: the growth process of new ventures at the base of the pyramid

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**GEARING UP FOR GROWTH: GROWTH MODES IN NEW VENTURES AT THE
BASE OF THE PYRAMID**

ABSTRACT

Despite organic growth and growth by acquisition being central in Penrose's work over 50 years ago, growth modes (organic, hybrid, and acquisitions) remain underexplored in growth research. This paper enquires into how a new venture targeting a base of the pyramid (BoP) market grows, focusing on growth modes. We find the use of multiple modes of growth and associated business models to "gear up for growth." Our paper contributes to growth literature by: (a) demonstrating how and why the mix of growth modes changes in a firm's growth process; (b) challenging the assumption that only organic growth takes place in new ventures; (c) pointing to the limitations of growth modes in explaining the growth process; and (d) extending the understanding of erratic growth patterns in new firms by showing how firms grow within growth modes and transition to new growth modes.

Keywords

Growth mode, social entrepreneurship, business model, base of the pyramid

INTRODUCTION

The growth of new ventures is a topic of interest for entrepreneurship scholars from both a theoretical and practical perspective. This is so because, while most new firms do not grow or show limited growth, the small number that do display high growth can have a significant impact on the economy (Delmar et al., 2013, Acs and Armington, 2006).

This impact of the growth of new firms assumes even more importance in certain contexts. For new ventures aiming to contribute to solving complex societal problems, in the social entrepreneurship context for instance, achieving scale is necessary if the social innovations brought in by them are to have a substantial influence on these problems (Dees et al., 2004, Bloom and Smith, 2010). The study of antecedents, process and impact of firm growth thus assumes even more importance in this context.

Recent reviews of firm growth literature reveal a fragmented field where, despite considerable empirical research on identifying the determinants of venture growth, theoretical development has been slow due to inconsistent results hampering the generation of theoretical explanations (Delmar et al., 2003, Gilbert et al., 2006, Wright and Stigliani, 2013). This has been attributed to the overt focus on the 'how much' of firm growth at the expense of a focus on the 'how' of firm growth (McKelvie and Wiklund, 2010, Wright and Stigliani, 2013). Many recent review articles aimed at furthering growth research, therefore, call for empirical studies of growth processes in small firms in particular contexts using methods that can take into account the idiosyncrasies of growth processes, including qualitative and longitudinal inspired methods to develop a better understanding and explanation of how firms grow (Dobbs and Hamilton, 2007, Macpherson and Holt, 2007, Gilbert et al., 2006, Wright and Stigliani, 2013, Leitch et al., 2010, McKelvie and Wiklund, 2010, Levie and Lichtenstein, 2010).

To better understand the growth processes of firms, examining their modes of growth has been suggested as one way forward. Firms can grow organically, by acquisition, or in a hybrid form, the firm's "growth mode". Penrose (1959) in her classic work on the growth of firms presented the choice of a mode of growth between organic and acquisitive as strategic options available to firm managers, with clear implications for firm growth based on the strategic choice made. Even though organic growth and growth through acquisition were central in Penrose's firm growth theory, growth modes have received scant attention in firm growth research (McKelvie and Wiklund, 2010, Lockett et al., 2011, Wright and Stigliani, 2013). McKelvie and Wiklund (2010), therefore, recommend explicit reference to growth modes in order to better explain the 'how' aspect of firm growth. In particular, they ask for research around the reasons behind the choice, combinations and sequence of growth modes used by firms; managerial and performance implications of different growth modes; and for extending Penrose's growth theory to account for changing corporate realities, theoretical development and hybrid growth modes.

Prior research suggests that firm growth is not a single phenomenon and there are several different modes and patterns of growth (Delmar et al., 2003). Building upon Penrose's theory of firm growth, McKelvie et. al. (2006) find that organic and acquisition growth are different processes and may be explained in terms of a firm's resource stock and resource usages and contend that the resource based view (RBV) can provide valuable insights into firm growth.

Considering growth as a process and exploring the interlinkages between the development of firm resources, capabilities and strategies, and external environmental resource contexts (Westhead and Wright, 2011, Wright and Stigliani, 2013) can help explain the idiosyncratic patterns of growth observed (Hamilton, 2012).

In the social entrepreneurship context (Dacin et al., 2010) as well, resources are identified as

crucial for the scaling up of social entrepreneurial ventures (Bloom and Smith, 2010, Desa, 2012). Given the call for context specific research to better understand growth processes in firms, in this paper we focus on this context. Here, new ventures face some additional challenges. The environments in which social enterprises operate, typically lack established infrastructures and present institutional constraints. For instance, supply and distribution infrastructure often needs to be built from scratch; there is a lack of availability or access to financial institutions; and the customers are often the dispossessed and lack affordability (Bloom and Smith, 2010, Desa, 2012). Growing firms is especially challenging in these contexts and the study of growth processes here may reveal new insights into how firms build resource stocks and utilize them to achieve growth.

This is particularly true for ventures serving the base of the economic pyramid (BoP), defined as the nearly 4 billion people who live in relative poverty globally (Hammond et al., 2007, Prahalad and Hammond, 2002). Here, non-existing formal capital markets, uneducated workforces, poorly developed public infrastructures, informal governance mechanisms, and little or no property rights protection are all characteristics that must be dealt with in order to achieve growth (de Soto, 2000, Webb et al., 2010). Given the poorly developed business ecosystem, there is a need to build upon, rather than around, the conditions and resources available in the BoP context (Hart and London, 2005) and this often entails using approaches and strategies unlike in other contexts (Hart and Sharma, 2004). As a result the debate in BoP literature currently focuses on how firms can best engage with the context in order to develop and grow more sustainable businesses (Landrum, 2007, Kolk et al., 2013).

We therefore ask, “How do new ventures at the BOP overcome contextual challenges to achieve scale?”

In this study, we conduct a case study of a new venture operating in the off-grid rural electrification sector in India, a context in which growth is seen as crucial.

People without access to electricity can be seen as a particular market at the BoP and they number approximately 1.3 billion worldwide (IFC, 2012, UNDP, 2011, Zerriffi, 2011). An estimated 364 million are located in India (Balachandra, 2011), and a vast number of these live in rural areas (Bhattacharyya, 2007). It is acknowledged that renewable energy, especially off-grid, solutions, could play an important role in remote rural areas (Reddy, 1999). Entrepreneurs and associated firms are expected to contribute to solve this problem of electricity access (Balachandra, 2011, Govt. of India, 2006). The magnitude of the rural electricity deficit in India illuminates the necessity of such firms' growth.

Building upon the research gaps identified above, our study focuses on the growth process in our case study firm. In particular, we examine the combination and sequence of the modes of growth used to achieve scale, and seek explanation in terms of resource availability and usage in interaction with the context.

Our findings contribute to growth literature in four ways: 1. We demonstrate how and why the mix of growth modes changes over time in a firm's growth process. 2. We suggest that growth modes are a key part of understanding growth in new and small ventures, and researchers cannot assume organic growth in such firms. 3. Our findings, however, also point to the limitations of using only growth modes in growth process studies. Consequently, growth modes should be seen in combination with the business model. 4. We show that new and small firms grow in a pattern that is erratic, and this is related to the deployment of different growth modes and growth within these and the transition to other modes.

The paper proceeds as follows. We first present our research design. The reason for this is that

this study is data driven, and the research process must be explained before introducing the findings and theory, which is in line with Gioia et al. (2013). This is followed by the presentation and discussion of our findings in light of extant theory. Finally, we present our conclusions, including theoretical contributions, practical implications and suggestions for how to further build on our contributions.

RESEARCH DESIGN

Sampling and the Case Company

We adopt a single case study design to develop an understanding of the process of growth of firms at the BoP, exploring how and why modes of growth are used by a firm operating in a particular context (Yin, 2009, McKelvie and Wiklund, 2010). To select our case firm, we followed an extreme sampling strategy (Flyvbjerg, 2006, Neergaard, 2007, Eisenhardt, 1989). Commercially driven mini-utility firms that are close to economic viability operating in a BoP context are rare and unique (IFC, 2012). In addition, the selected case, Husk Power Systems (HPS), has been able to expand its activities rapidly over a six-year period from 2007 through 2012. This single case is a unique (Neergaard, 2007) and an unusually revelatory case (Eisenhardt and Graebner, 2007) that has commissioned 79 rural power plants while simultaneously aiming for profits. In addition to winning several awards for their efforts in bringing electricity to the poor, HPS has received investments, grants, and loans from around 25 different sources, worth approximately \$10 million USD. Further a ranking by the International Finance Corporation (IFC) states that the venture is at the top of all commercially driven mini-utility firms at the BoP (IFC, 2012).

HPS was founded in 2007, with the mission “*to empower rural people in India on the backbone of electricity produced from renewable energy.*” Based in the state of Bihar, one of the poorest

and least developed states in India, HPS' power plants run exclusively on gasified biomass, rice husk, a locally abundant agricultural waste product. Ranging from 30 to 100 kW in size, each power plant can supply between 300 to 1000 households and/or businesses with basic electricity services. There was a five-year period (2002–2007) in which the founders engaged in idea development, choosing technology and putting together initial resources, prior to setting up of the first power plant. In this paper, we present the development of the firm from the time of setting up of the first power plant in 2007 to the end of 2012, when data collection was completed for this study, a period which corresponds to the setting up of power plants in multiple locations and the efforts to grow the firm.

Data Collection

Semi-structured interviews with the two founders of HPS and managers of power plants and additional group interviews with employees in two field offices constitute the primary sources of our data (see Table for an overview). The findings from these were triangulated with field observations from HPS' operations in Bihar, with archival data provided to us by the Vice President of Operations (VPO), and secondary sources such as award announcements and UN reports (IFC, 2012). Using multiple sources and management levels provides improved reliability and richness to our study (Denzin and Lincoln, 2000, Healy and Perry, 2000).

Interviews and observations were conducted in two periods in 2012, with approximately eight months in-between. The first data-collection period consisted of an initial open-ended (Miles and Huberman, 1994) interview with the CEO and co-founder of HPS, who came to be our key informant (Patton, 2002), and who also provided access to additional informants in the subsequent round of data collection. The first interview was constructed around open questions such as “please tell us about HPS's development from inception until today,” allowing the

respondent to tell his story without much interruption from the researchers (Wengraf, 2001). This first interview and visit to two power plant sites provided a first impression of HPS' history and present activities and laid the foundation for the subsequent data-collection round, in which numerous semi-structured interviews with the founders, management team, field staff, franchisee, and customers of HPS took place.

The first data-collection round revealed that HPS had launched several power plants subject to three different business models, and these business models were somehow related to the growth of the firm. We let this preliminary "finding" guide further data collection in the sense that the semi-structured interviews were influenced by it. Moreover, it led to a sampling technique in the second round of data collection that we denote "purposeful snowballing." It is purposeful (Miles and Huberman, 1994) because we targeted the managers (which also included field staff employed by HPS) of power plants subject to different business models, and snowballing (Miles and Huberman, 1994) because the key informant provided information enabling contact with other informants. Table provides an overview of the respondents.

Insert Table 1 about here

Data Analysis

The process of data analysis took place in four steps where data collected through primary interviews were coded by two researchers at the first order code, second order category, theoretical sub-category and aggregated theoretical dimension levels (see Figure 1 for an overview).

1st order codes – structural in vivo coding. In the first round of coding, we followed a structural in vivo coding technique, which reduced the empirical material without losing the respondents' voices (Gioia et al., 2013). A structural code is a content-based or conceptual phrase that represents the coded segment (Gioia et al., 2013). We prioritized using the respondents' own words, a coding technique called In Vivo (or verbatim) coding, that is applicable in combination with other coding techniques (Saldaña, 2013). In this case, it was combined with structural coding technique, thus the term “structural in vivo coding.” At this point of time, no data from the semi-structured interviews were omitted. The aggregation of 1st order codes took place in the 2nd cycle of coding.

2nd order categories. The purpose of the second cycle of coding was to aggregate 1st order codes into categories with similar themes. At this stage, we identified common emerging descriptions of elements in the context, different topics and dimensions, and actions taken by entrepreneurs, customers, partners etc. (Gioia et al., 1994) and organized these into categories. In this cycle, we coded structurally, with the main objective to reduce the material to a manageable entity.

Insert Figure 1 about here

Theoretical sub-categories. In the third cycle, we reassembled 2nd order concepts into new categories, a coding process also known as axial coding (Strauss and Corbin, 1998, Saldaña, 2013, Boeije, 2010). At this stage, we applied a constant comparison technique, which ensured a close link between the data and the emerging theoretical concepts (Glaser and Strauss, 1967, Miles et al., 2013), and we asked ourselves “what is really going on here” (Gioia et al., 2013).

Moreover, this was at the stage in the coding process in which we excluded data we considered irrelevant to the research question in mind, and as subcategories emerged, “outlier” statements could be isolated and taken out (Shepherd and Williams, 2014).

Aggregated theoretical dimensions. In the fourth and final cycle of the coding, we extended the process started in the third cycle with the objective of aggregating the theoretical categories further and into theoretical dimensions. Numerous iterations between the 2nd order categories, the theoretical sub-categories, and the aggregated theoretical dimensions took place before the pieces of the puzzle came together—a process in which “recoding” certainly was more apparent than “coding” (Saldaña, 2013).

FINDINGS: GEARING UP FOR GROWTH AT THE BOP

In this section, we present results on how growth has taken place at HPS and offer an explanation for the trajectory of growth undertaken by it. HPS has installed 79 power plants and adjoining transmission lines (mini-grids) in the first few years of its existence. In the same period, it has also grown to 400 employees. To reach growth in line with founders’ ambitions, HPS moves through different modes of growth. This is a feature of a growth-oriented firm in the BoP that we term “gearing up for growth.” This process is explained in the following section, which demonstrates how the “growth intentions” of the founders, when faced with “initial challenges” posed by the context, lead to the development of “contextualized capabilities within an “initial growth mode” and later triggered “shifts in growth mode”.

Growth Intentions

When the founders of HPS first started off, they had a vision for the company, which set in motion the process of establishing and growing the firm.

“The idea has always been that you become a solution to a significant number of people worldwide. You know, disadvantaged people. Some significant development impact in a global sense. The word ‘significant; is what makes us do all these things.” – CEO and Co-founder

One of the primary drivers of growth in new ventures is the firm founders’ attitude toward growth (Wiklund, 1998, Wiklund et al., 2009), and firms with an intention to grow seem more likely to grow (Chandler and Hanks, 1994, Cliff, 1998, Gilbert et al., 2006, Kolvereid and Bullvag, 1996, Baum and Locke, 2004). Our data reveal that the founders of HPS have high growth ambitions for their firm linked to their desire to create impact through scale.

Initial Challenges

This intention to grow, however, was tempered by the challenges of their context. The local business environment has been shown to have an influence on both how much and how the firm grows, and this effect can vary from context to context (Davidsson et al., 2010). Rural locations in particular have been shown to be a disadvantage when trying to grow a firm (Gilbert et al., 2006, Green and McNamara, 1987). For HPS, this implied that ready-made solutions adopted from elsewhere would not necessarily work here. To establish and grow its business, HPS needed to develop contextualized solutions.

“...the whole thing has to be very contextualized. The load requirement ... whole supply planning has to be very contextualized. It cannot be a blanket system the way the grid does. That has to be well understood as well. And then pricing, pricing must also be very contextualized.” – CEO and co-founder

Further, it was bringing in a previously untested technology, namely, a single fuel-based, small-sized biomass gasifier, to a customer base that was either unserved or underserved in terms of access to electricity services. This meant that there were no tried-and-tested business models for delivering such a service. Nor were there technological or human resources available in the context to support their business concept.

“An operator did not exist before we got the system working” – COO and co-founder

The need for customized solutions and the lack of appropriate technological and human resources to develop these, were challenges presented by the context that HPS needed to overcome to grow. Given the founders’ motivations, and their growth ambitions, they met these challenges by adopting an approach to develop contextualized solutions and to develop technical and human resources in the firm. This is necessary because the BoP context has a shortage of strategic factor markets (SFMs) (Webb et al., 2010, Milstein et al., 2007, Seelos and Mair, 2007). An SFM is a market in which resources are sold and acquired among firms, and these resources are expected to contribute to a competitive advantage with minor adjustments (Barney, 1986). When there is a lack of SFMs, firms need to develop resources internally.

Contextualized Capabilities

Venture performance is a function of the decisions made by entrepreneurs in recognizing opportunities, assembling the required resources, developing a strategy to align resources to exploit the opportunity, and designing an organization that can put this strategy into action (Chrisman et al., 1998). To provide a solution that would be accepted by the context, HPS needed to first develop an understanding of the context. The absence of prior knowledge transferrable to its context required close interaction with the context to learn more about it. Further, HPS needed to develop its offering using locally available resources. By doing this, it

could also increase the acceptability of its service and its legitimacy. The lack of appropriate “ready” resources in the context, however, required HPS to develop these resources itself. ,

“Due to a lack of everything we are forced to do everything” – COO and co-founder HPS’ approach of being embedded in the context to learn from it, and developing relevant capabilities by doing things themselves was instrumental in determining the mode for initial growth. It required direct interaction with end consumers and other stakeholders, and direct involvement in most activities in the value chain.

In-depth interaction with the local context at the BoP is important for succeeding at the BoP. Instead of trying to avoid the conditions found at the BoP, firms should include people on the fringe of society (Hart and Sharma, 2004), include local people in the innovation process (Simanis and Hart, 2009), and build on locally available resources and conditions to build native capabilities (Hart and London, 2005). For HPS, this meant starting out small and doing most activities themselves, including trying out the technology, training employees, and developing operational routines, reflecting a process of building knowledge reservoirs (Widding, 2005).

The BoP may lack good quality resources (Ramachandran et al., 2012); however, there are resources present (Madhubalan and José Antonio, 2007) that may be considered to be ordinary or junk in character (Warnier et al., 2013). Though not typically seen as contributing to competitive advantage, such resources can be managed and combined in ways that can lead to competitive advantage under certain circumstances (Warnier et al., 2013). HPS, therefore, sought to manage resources (Sirmon et al., 2007) through the accumulation (Maritan and Peteraf, 2011) and mobilizing of resources (Villanueva et al., 2012) so that the locally available resources were developed from ordinary to becoming strategic.

It was this process of doing things itself that enabled HPS to develop capabilities and solutions appropriate for the context. This translated into an organic growth mode with a business model that encompasses activities across the value chain, which HPS calls BOOM (Build, Own, Operate, Maintain).

Initial Growth Mode

Growth mode 1 (GM1), its initial organic mode of growth, placed HPS in close interaction with the end user and undertaking most of the activities related to plant set-up, viz. acquiring feedstock, managing day-to-day plant operations, and collecting payments from customers, gave HPS invaluable insight into what works and what does not work in its context. As a result, HPS was able to build knowledge on what is valued by end users, how to attract and acquire customers, and how to maximize revenues and operational profitability of its power plants, developing its operational capabilities. This contextualized knowledge, for example, enabled HPS to develop operational thumb rules where they know how much demand and what procurement rate for rice husk is necessary to operate a power plant profitably.

“So before deciding on setting up a plant at any location, the due diligence is done.

So you have to ascertain that you have a sale of electricity of 15,000 watts to make the system operationally profitable.” – COO and co-founder

It has been argued that effectively exploiting growth opportunities requires capable systems to be put in place. To create an organizational form to do this, firms start with a rudimentary structure to generate the resources necessary for this (Thakur, 1998, Garnsey, 1998). We find that the initial growth mode at HPS was aimed at being embedded in the local context to develop the systems that would enable it to effectively exploit growth opportunities. This process of determining which systems are required to exploit the opportunity is reflected in the slow growth

in the number of power plants in the initial three years (Table 2). Only after having mastered the technology and learning how to operate their power plants profitably, HPS arrived in a position to scale up its operations. In fact, at this stage of development, having successfully demonstrated its ability to set up and operate power plants in more than one location, HPS was able to raise funds through investors for scaling up operations. HPS then began replicating power plants rapidly—in the year 2010, it established 32 new plants in its initial growth mode GM1.

Shifts in Growth Mode

We find, however, that HPS did not continue growing in this initial growth mode for long. The very next year, in 2011, the number of new power plants set up in this growth mode drops to just seven (see Table 2). Our data reveal the introduction of different modes of growth in the process of growing at HPS. After growing initially with the first mode of growth, organic growth, HPS shifted to a hybrid mode of growth. This was followed by another organic mode of growth, but with a different business model than the first organic growth mode. The year 2011, when the number of new power plants in the initial growth mode drops to seven, saw the launch of 17 power plants under a different growth mode; a hybrid growth mode. In 2012, no new power plants were launched in the initial growth mode and only one power plant in the hybrid mode. In 2012, HPS launched the most power plants in the third, organic mode of growth. Table 2 presents the annual development of the firm disaggregated by the growth mode. The variations in the growth trajectory of HPS are related to the timing of the launch of power plants in these different growth modes.

Insert Table 2 about here

The table above shows that HPS is a growing venture that has been able to spread operations to numerous sites. The key take-away from Table 2 is that when the first organic growth mode was launched, growth peaked within this mode before it declined. A similar pattern can be seen in the hybrid growth mode; this mode was launched, and then growth peaked within this growth mode before it declined. Consequently, there was a movement toward the third mode of growth: organic through the sale of power plants.

To explain this shift in growth modes, we present the key features of the three HPS growth modes in Table 3, highlighting the characteristics that distinguish them from one another. These are then discussed in more detail in the text that follows.

Insert Table 3 about here

Rationale for the Sequence of Growth Modes at HPS

GM 1 Organic growth. In the first growth mode in which HPS operated, it installed the power plant and the mini-grid system in the village and had full ownership of it. Daily operations were managed by staff employed by HPS and included procuring rice husk, operating the plant, ensuring maintenance of the plant and the connections provided, and collecting bills. The product on offer was an electricity service, and it was sold directly to end consumers, who were either village households or small businesses, or even small village units like milling units. This put HPS in direct and close contact with the end consumer of the electricity produced from their power plants.

Growth in this mode occurred by acquiring more customers for the electricity, up to a maximum imposed by the load capacity of the power plant, and also by installing more power plants at different locations (where the same logic of maximizing the number of customers applied). This growth was organic growth, involving a wide range of activities, enabling them to develop the knowledge and contextualized capabilities to effectively match resources to the opportunity.

“BOOM, it is only the way to learn, and you have to know yourself before you can teach others” – CEO and co-founder

Growing organically to multiple sites in its initial growth mode exposed HPS to the challenges of growing this way. While this was a good model to get HPS in close interaction with the context and to develop its capabilities, it was a work-intensive model, which was not suitable for expansion matching its founders' growth ambitions.

The nature of the off-grid rural electrification sector implies growth through the establishment of power plants in different geographical locations. Growing organically, as it did in its initial growth mode, meant that HPS needed to hire and train a number of staff to operate each plant and additional staff to monitor and manage the geographical expansion. This was not conducive to efficiently and quickly scaling up in an area with poor connectivity and a lack of trained personnel and infrastructure. The challenges of growing with its initial growth mode forced HPS to explore alternative means of growing. It realized that by involving local entrepreneurs and selling its power plants to them, HPS could remove the need to operate plants itself, and focus instead on selling its power plants and the associated knowledge it had developed.

GM 2 Hybrid growth. The key difference from the first growth mode was that in this second growth mode, HPS partnered with a local village entrepreneur, who took the power plant from HPS on lease and was in charge of day-to-day operations of the plant. The village entrepreneur

put up 10% of the capital required for the plant (typically between USD 2–3000 after subsidies), with HPS providing the remaining capital. The lease was to be paid back by the local entrepreneurs over a fixed period (typically 5–6 years). The product on offer was thus the power plant itself, and a financial service in the form of a lease. Maintenance and operational support was also offered. Access to finance and free training in operation of the power plant was the key value proposition offered to the local entrepreneur.

Growth under this mode occurred by partnering with local entrepreneurs, who can be seen as franchisees of HPS. While the franchisee grew sales revenues by acquiring customers of the electricity service (similar to HPS in its first growth mode), HPS achieved growth by increasing the number of franchise partners. The focus for HPS was thus on finding and acquiring these franchise partners in different locations to achieve growth. Revenues were earned through the repayment of the lease.

Operating in the initial growth mode, HPS realized that involving local entrepreneurs and selling its power plants to them was both the quickest means of scaling up in terms of impact and also held the most revenue potential for HPS itself. However, local village entrepreneurs needed a loan to acquire a power plant from HPS, but local banks perceived the risks in such a loan as too high. The hybrid growth mode, launched second by HPS, was an attempt to overcome this challenge. The primary purpose was to demonstrate to local banks the feasibility of lending to local entrepreneurs. In this hybrid growth mode, HPS took on the role of a bank, financing up to 90 % of the capital needed to set up and start operating a power plant, which was paid down over a period of 5–6 years. In partnership with local entrepreneurs, HPS demonstrated what it envisioned as the model (build, own, maintain) for the rapid scaling up of its activities. This

mode was capital intensive, as HPS was still putting the cost of the power plants on its balance sheet. Accordingly, there was a limit to scaling up in this mode as well.

“[With BOM], you are still putting [power plants] on your balance sheet. Where are you going to get that much money? So if you are doing 2,000 plants . . . you can’t do that.” –CEO and Co-founder

Having served its purpose, this was abandoned in favor of the preferred growth model.

GM 3 Organic growth. In its third mode of growth, HPS sold the plant to a local entrepreneur with upfront payment and the ownership of the power plant rested 100 % with this local village entrepreneur. The local entrepreneur financed the plant himself, typically by borrowing money from a local bank. HPS built the plant for the local entrepreneur and provided advanced maintenance service. The village entrepreneur was in charge of making a return on his investment by performing day-to-day operations, selling electricity, following up with customers, and making collections through staff that he employed. In this mode, the customer for HPS was the local entrepreneur who bought its power plant, and the value offered was profit generation using a proven technology and support services.

Here, HPS was no longer concerned directly with servicing the end consumer of the electricity service delivered by its power plants. Growth in this mode occurred by the sale of power plants to local entrepreneurs, and HPS moved from being a provider of electricity services to being the provider of a technology, operational guidance, and maintenance services that could generate revenues for local entrepreneurs.

“BM is the only way . . . you can set up any number of plants” – COO and co-founder

Given that the primary product was now the power plant and growth was achieved by selling more power plants to local entrepreneurs, HPS was growing organically again. However, the firm had changed its business model. Instead of being a provider of electricity services directly to end consumers, the firm was now selling power plants to local village entrepreneurs. In the sequence of growth modes observed at the firm, this is the final mode—the growth mode that is in line with the growth ambitions of the founders.

To summarize, we see that the particularities of the growth process at HPS are related to its efforts to realize its growth ambitions, while solving problems encountered due to the context it is in. The context demands the need for embeddedness to develop knowledge for contextualized solutions and for the development of resources by the firm. This informs how the firm grew initially. Growing in this mode in turn helped the firm develop contextualized capabilities and knowledge for further growth. This helped HPS identify further opportunities for growth and the development of a different business model. However, the context posed further challenges to achieving growth using this model, and the firm overcame this by growing in a hybrid mode aimed at overcoming a specific contextual problem to reach its desired growth path. It is this interplay between the growth intention, context, evolving knowledge on how to grow, and efforts to procure and accumulate resources to support growth that shaped the growth process of the firm.

DISCUSSION AND IMPLICATIONS

In the present study, we aimed to determine how a venture uses grows at the BoP. We found that HPS used multiple modes of growth, that it grew in each mode, and there was a progression and path dependence in the sequence of growth modes used—the later modes built upon the earlier

mode/s—a process we call “gearing up for growth.” We discuss these findings and their implications below.

The Use of Multiple Modes of Growth by New Ventures

Most of the growth research implicitly assumes organic growth in firms (McKelvie and Wiklund, 2010). Penrose (1959) in her seminal work had discussed different modes of growth in firms, primarily organic growth and growth through acquisitions. In spite of this, very few firm growth studies have focused on growth modes since (Davidsson et al., 2010). The few researchers that have looked at growth modes find that new and small firms are more likely to grow organically (Davidsson and Delmar, 2006, McKelvie and Wiklund, 2010, Levie, 1997).

In contrast to this, we find that a new and small firm can grow using multiple modes of growth that are launched sequentially and operated simultaneously. This suggests that the “how” of growth is complex and leads us to reiterate what others have said before us (Davidsson et al., 2010, Wright and Stigliani, 2013, McKelvie and Wiklund, 2010) - that it is important to attend to growth modes to unravel the complexity of growth processes.

Our case firm used a hybrid mode of growth for a limited period of time. Hybrid organizational forms involve contractual relationships that fall between the market and hierarchy, combining elements of each, and have been linked to growth (Shane, 1996).. The reason firms use hybrid forms, particularly franchising, is related to overcoming resource problems and agency problems (Combs and Ketchen, 2003). In contrast, we find that HPS, to solve a problem of managerial limits to growth (Shane, 1996) used a hybrid mode that, instead of minimizing resource outlays, involves massive resource outlays. Because HPS took on the role of local banks and provided loans to local village entrepreneurs in its hybrid growth mode, its balance sheet was under severe pressure. HPS did not deploy a hybrid model to reduce expenditures; rather the hybrid growth

mode is a temporary but necessary part of the growth process needed to solve a resource problem (money from banks) in the context. Consequently, the growth mode and associated business model are related to resource management at the BoP.

Hart and London (2005) argue the importance of building native capabilities building *on* local resources and conditions at the BoP. An initial organic growth mode with its associated business model that is configured to solve the initial challenges and develop contextualized resources can be considered the operationalization of *how* to build native capabilities. Accordingly, various growth modes and associated business models can facilitate the solving of different problems and subsequent resource generation based on the problem solved. For example, at HPS, the problem of developing the right technology is better identified and solved within the first organic growth mode and associated business model. This is because the distance to end consumers is much greater in the latter organic growth mode and associated business model than the first. As there is a lack of good quality resources (Ramachandran et al., 2012) and SFMs at the BoP (Webb et al., 2010, Milstein et al., 2007, Seelos and Mair, 2007), ordinary resources (Warnier et al., 2013) should be managed (Sirmon et al., 2007) and improved. We show that the growth mode and associated business model may be imperative in achieving the necessary contextualized resources for achieving scale. Sirmon et al. (2007) argue that a shift of focus from resource characteristics to the *management* of resources will extend resource-based theory (RBT) (Barney, 1991). By demonstrating how growth mode and associated business models can facilitate the management of resources from ordinary to strategic in the BoP context, we meet this call.

Our findings also show that in addition to what mode of growth is used; understanding how it is used (what problem it solves) may provide better insight into the role of growth modes in the

growth process. This argument is supported by the fact that the two organic growth modes used by HPS are distinctly different from each other. While the latter organic growth mode (2012) had the potential for scale, the earlier (2007) did not have the same potential for scale, as the associated business models were configured differently within the two growth modes. Hence, knowing the type of growth mode (organic), paints only half the picture. Other characteristics of the business, such as the firm's business model, are needed to complete the picture of how the firm grows. Other scholars have emphasized the importance of growth modes (McKelvie and Wiklund, 2010) and business models (Levie and Lichtenstein, 2010) in understanding how firms grow, separately. Our findings suggest that growth process studies should include both growth modes and business model development in their focus, and it is the points of interactions between the two that may be the most revealing.

Growth within and the Transition to New Growth Modes

Our data show that HPS grew with each of its growth modes. The pattern of growth, however, was erratic, varying between slow and fast rates of growth. This has been found to be characteristic of new ventures (Garnsey et al., 2006, Hamilton, 2012) and has been linked to the process of problem solving and competence development (Garnsey, 1998, Hugo and Garnsey, 2005). Our findings lend support to this, and we suggest that this pattern of growth potentially relates to growing *within* a growth mode and the *transition* to new growth modes. At any point in time, a firm operates with a growth mode and an associated business model within a certain context. Problem solving within this growth mode is about improving the efficiency and viability of the firm and growth in the firm can come about through this improvement. Our case firm, for example, grew with the first growth mode, while it was still in the process of testing and improving its business concept. Solving problems as they occur leads to the development of

contextualized resources and capabilities. The deployment of these capabilities in order to better utilize resources can in turn create value for the customers and other stakeholders of firms, enabling the firms to grow (Penrose, 1959, McKelvie et al., 2006). Growth in a particular mode and its rate is thus related to the success and process of problem solving and capability development. Problem solving and capability development related to growth in new ventures are in line with Garnsey (1998) and Hugo and Garnsey (2005) after Penrose (1959) and describes the process of growth within a particular mode.

The growth achieved through this process, however, may not match the growth aspirations of the founders/managers of the firm. Consequently, a new growth mode and/or associated business model may be deployed. The *potential* of growth in the new growth mode and/or business model will be greater than the previous growth mode and associated business model, as perceived by the entrepreneur/manager. However, this may not immediately translate into superior growth numbers. Improving the efficiency of this new growth mode through the further development of resources and capabilities attuned to this mode may be required. Only when these are developed may growth within the new growth modes and associated business model surpass the previous one. However, growth in the latter can then exceed growth in the previous by a great deal because the new growth mode and associated business model supports more rapid growth. Further, the firm may encounter problems in growing with this new mode not only because of internal resource issues (Widding, 2005), but also because of external challenges. This can trigger changes to the growth mode as well.

Limitations and Future Research

This study explores how modes of growth are employed in the growth process of a firm in a specific context using a single case study design. The complex nature of growth makes this a

suitable approach for such a study. While that enabled this study to explore and map out the process of growth and links to solving problems of resources at firm and context levels, a limitation is that generalizability remains untested. The fact that other researchers have argued for similar elements as this study finds is assuring, however, that the conclusions may be generalizable to other contexts as well. A study such as this can suffer from retrospective rationality of respondents. By using triangulation in our data, however, we ensure that the events in the growth trajectory have taken place and in the order claimed. This lends support to the rationale offered by the main respondents, and their intended effects are further confirmed by other respondents.

Growth processes in new ventures are both complex and idiosyncratic (Leitch et al., 2010). This study identified growth modes and associated business models as instrumental in opening up the “black box” of growth processes. Further, it found that growth intentions matter in how these are used in solving problems of growing. In addition, this problem solving is reflected in the pattern of the rate of growth over time as well as in shifts in growth mode and business model. Future research on growth processes can therefore investigate these transition points in other new ventures as potentially the most rewarding in terms of offering explanations. Repeating this study with other firms in the same context and with firms in different contexts will help make clear the picture of when and why these transitions occur. Classifying firms by growth intentions and contexts by resource munificence might be the most fruitful.

CONCLUSIONS

In this study we use growth modes as a means to present an insight into the black box of growth processes in firms. We find that, growth within a growth mode may be slow to begin with due to the need for problem solving and contextualized competence development. When competence

has been developed, fast growth can take place, but only within the limits of the respective growth mode and associated business model. Due to the inherent limitations within a growth mode and associated business model, firms with growth intentions may be forced to change growth and business modes with more potential for growth. These iterative cycles of growth within growth modes and the transition to new growth modes can explain why firms grow erratically (Garnsey et al., 2006, Hamilton, 2012).

Davidsson et al. (2010) state that the current state of knowledge on modes and processes of firm growth is so underdeveloped that “mere mapping out of the phenomenon would constitute worthwhile contributions.” Our study demonstrates how and why the mix of growth modes changes over time in a firm’s growth process. Our data show that this is closely linked to the growth intentions of the founders/managers and the development of capabilities and knowledge in the firm. Further, we show that changes in growth modes may be triggered not only by the need for growth-oriented managers to exploit capabilities, but also be a means of solving resource issues outside of the firm, in the context. We suggest that growth modes are a key part of understanding growth in new and small ventures, and researchers cannot assume organic growth in such firms. Our findings, however, also point to the limitations of using only growth modes in growth studies. Consequently, growth modes should be seen in combination with the business model.

References

- ACS, Z. J. & ARMINGTON, C. 2006. *Entrepreneurship, Geography, and American Economic Growth*, Cambridge UK, Cambridge University Press. .
- BALACHANDRA, P. 2011. Modern energy access to all in rural India: an integrated implementation strategy. *Energy Policy*, 39, 7803-7814.
- BARNEY, J. B. 1986. Strategic Factor Markets: Expectations, Luck, and Business Strategy. *Management Science*, 32, 1231-1241.
- BARNEY, J. B. 1991. Firm resources and sustained competitive advantage. *Journal of Management*, 17, 99-120.
- BAUM, J. R. & LOCKE, E. A. 2004. The Relationship of Entrepreneurial Traits, Skill, and Motivation to Subsequent Venture Growth. *Journal of Applied Psychology*, 89, 587-598.
- BHATTACHARYYA, S. C. 2007. Sustainability of power sector reform in India: what does recent experience suggest? *Journal of Cleaner Production*, 15, 235-246.
- BLOOM, P. N. & SMITH, B. R. 2010. Identifying the Drivers of Social Entrepreneurial Impact: Theoretical Development and an Exploratory Empirical Test of SCALERS. *Journal of Social Entrepreneurship*, 1, 126-145.
- BOEIJE, H. 2010. *Analysis in qualitative research*, London, Sage.
- CHANDLER, G. N. & HANKS, S. H. 1994. Founder competence, the environment and venture performance. *Entrepreneurship Theory and Practice*, 18, 77-89.
- CHRISMAN, J. J., BAUERSCHMIDT, A. & HOFER, C. W. 1998. The Determinants of New Venture Performance: An Extended Model. *Entrepreneurship Theory and Practice*, 23, 5-29.
- CLIFF, J. E. 1998. Does one size fit all? Exploring the relationship between attitudes toward growth, gender and business size. *Journal of Business Venturing*, 13, 523-542.
- COMBS, J. G. & KETCHEN, D. J. 2003. Why do firms franchise as an entrepreneurial strategy? A meta-analysis. *Journal of Management*, 29, 443-465.
- DACIN, P. A., DACIN, M. T. & MARAGARET, M. 2010. Social Entrepreneurship: Why We Don't Need a New Theory and How We Move Forward From Here. *Academy of Management Perspectives*, 24, 37-57.
- DAVIDSSON, P., ACHTENHAGEN, L. & NALDI, L. 2010. Small Firm Growth. *Foundations and Trends in Entrepreneurship*, 6, 69-166.
- DAVIDSSON, P. & DELMAR, F. 2006. High-growth Firms and their Contribution to Employment: The Case of Sweden 1987-96. In: DAVIDSSON, P., DELMAR, F. & WIKLUND, J. (eds.) *Entrepreneurship and the Growth of Firms*. Cheltenham, UK: Edward Elgar.
- DE SOTO, H. 2000. *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else*, New York, Basic Books.
- DEES, J. G., ANDERSON, B. B. & WEI-SKILLERN, J. 2004. Scaling Social Impact: Strategies for spreading social innovations *Stanford Social Innovation Review.*, 24-32.
- DELMAR, F., DAVIDSSON, P. & GARTNER, W. B. 2003. Arriving at the high-growth firm. *Journal of Business Venturing*, 18, 189-216.
- DELMAR, F., MCKELVIE, A. & WENNERBERG, K. 2013. Untangling the relationships between growth, profitability and survival in new firms. *Technovation*, 33, 276-291.

- DENZIN, N. K. & LINCOLN, Y. S. 2000. Introduction: The Discipline and Practice of Qualitative Research. In: DENZIN, N. K. & LINCOLN, Y. S. (eds.) *Handbook of qualitative research*. Thousand Oaks, CA: Sage Publications, Inc.
- DESA, G. 2012. Resource Mobilization in International Social Entrepreneurship: Bricolage as a Mechanism of Institutional Transformation. *Entrepreneurship Theory and Practice*, 36, 727-751.
- DOBBS, M. & HAMILTON, R. T. 2007. Small business growth: recent evidence and new directions. *International Journal of Entrepreneurial Behaviour & Research*, 13, 296-322.
- EISENHARDT, K. M. 1989. Building theories from case study research. *The Academy of Management Review*, 14, 532-550.
- EISENHARDT, K. M. & GRAEBNER, M. E. 2007. Theory Building from Cases: Opportunities and Challenges. *The Academy of Management Journal*, 50, 25-32.
- FLYVBJERG, B. 2006. Five Misunderstandings About Case-Study Research. *Qualitative Inquiry*, 12, 219-245.
- GARNSEY, E. 1998. A Theory of the Early Growth of the Firm. *Industrial and Corporate Change*, 7, 523-556.
- GARNSEY, E., STAM, E. & HEFFERNAN, P. 2006. New Firm Growth: Exploring Processes and Paths. *Industry and Innovation*, 13, 1-20.
- GILBERT, B. A., MCDUGALL, P. P. & AUDRETSCH, D. B. 2006. New Venture Growth: A Review and Extension. *Journal of Management*, 32, 926-950.
- GIOIA, D. A., CORLEY, K. G. & HAMILTON, A. L. 2013. Seeking Qualitative Rigor in Inductive Research: Notes on the Gioia Methodology. *Organizational Research Methods*, 16, 15-31.
- GIOIA, D. A., THOMAS, J. B., CLARK, S. M. & CHITTIPEDDI, K. 1994. Symbolism and Strategic Change in Academia: The Dynamics of Sensemaking and Influence. *Organization Science*, 5, 363-383.
- GLASER, B. G. & STRAUSS, A. L. 1967. *The Discovery of Grounded Theory: Strategies for Qualitative Research*, Chicago, Aldine.
- GOVT. OF INDIA 2006. Integrated Energy Policy. In: COMMISSION, P. (ed.). New Delhi: Govt. of India.
- GREEN, G. P. & MCNAMARA, K. T. 1987. Traditional and nontraditional opportunities and alternatives for local economic development. In: BEAULIEU, L. J. (ed.) *The rural South in crisis: Challenges of the future*. Boulder, CO: Westview.
- HAMILTON, R. T. 2012. How firms grow and the influence of size and age. *International Small Business Journal*, 30, 611 - 621.
- HAMMOND, A. L., KRAMER, W. J., KATZ, R. S., TRAN, J. T. & WALKER, C. 2007. The Next 4 Billion. *Innovations: Technology, Governance, Globalization*, 2, 147-158.
- HART, S. L. & LONDON, T. 2005. Developing native capability. What multinational corporations can learn from the base of the pyramid. *Stanford Social Innovation Review*.
- HART, S. L. & SHARMA, S. 2004. Engaging Fringe Stakeholders for Competitive Imagination. *The Academy of Management Executive (1993-2005)*, 18, 7-18.
- HEALY, M. & PERRY, C. 2000. Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm. *Qualitative Market Research*, 3, 118-126.
- HUGO, O. & GARNSEY, E. 2005. Problem-Solving and Competence Creation in the Early Development of New Firms *Managerial and Decision Economics*, 26, 139-148.

- IFC 2012. From Gap to Opportunity: Business Models for Scaling Up Energy Access. World Bank Group.
- KOLK, A., RIVERA-SANTOS, M. & RUFIN, C. 2013. Reviewing a Decade of Research on the “Base/Bottom of the Pyramid” (BOP) Concept. *Business & Society*, 53, 338-377.
- KOLVEREID, L. & BULLVAG, E. 1996. Growth Intentions and Actual Growth: The Impact of Entrepreneurial Choice. *Journal of Enterprising Culture*, 04, 1-17.
- LANDRUM, N. E. 2007. Advancing the Base of the Pyramid Debate. *Strategic Management Review*, 1, 1-12.
- LEITCH, C., HILL, F. & NEERGAARD, H. 2010. Entrepreneurial and Business Growth and the Quest for a “Comprehensive Theory”: Tilting at Windmills? *Entrepreneurship Theory and Practice*, 34, 249-260.
- LEVIE, J. 1997. Patterns of growth and performance: an empirical study of young, growing ventures in France, Ireland and Scotland. In: REYNOLDS, P. D., BYGRAVE, W., CARTER, N. M., DAVIDSSON, P., GARTNER, W. B., MASON, C. & MCDUGALL, P. P. (eds.) *Frontiers of Entrepreneurship*. Wellesley: Babson College.
- LEVIE, J. & LICHTENSTEIN, B. M. B. 2010. A Terminal Assessment of Stages Theory: Introducing a Dynamic States Approach to Entrepreneurship. *Entrepreneurship Theory and Practice*, 34, 317-350.
- LOCKETT, A., WIKLUND, J., DAVIDSSON, P. & GIRMA, S. 2011. Organic and acquisitive growth: Re-examining, testing, and extending Penrose's growth theory. *Journal of Management Studies*, 48, 48-74.
- MACPHERSON, A. & HOLT, R. 2007. Knowledge, learning and small firm growth: A systematic review of the evidence. *Research Policy*, 36, 172-192.
- MADHUBALAN, V. & JOSÉ ANTONIO, R. 2007. Product and Market Development for Subsistence Marketplaces: Consumption and Entrepreneurship beyond Literacy and Resource Barriers. *Product and Market Development for Subsistence Marketplaces*. Emerald Group Publishing Limited.
- MARITAN, C. A. & PETERAF, M. A. 2011. Invited Editorial: Building a Bridge Between Resource Acquisition and Resource Accumulation. *Journal of Management*, 37, 1374-1389.
- MCKELVIE, A. & WIKLUND, J. 2010. Advancing Firm Growth Research: A Focus on Growth Mode Instead of Growth Rate. *Entrepreneurship Theory and Practice*, 34, 261-288.
- MCKELVIE, A., WIKLUND, J. & DAVIDSSON, P. 2006. A resource based view of organic and acquired growth. In: WIKLUND, J., DIMOV, D., KATZ, J. A. & SHEPHERD, D. A. (eds.) *Advances in entrepreneurship, firm emergence, and growth*. Amsterdam: Elsevier.
- MILES, M. B. & HUBERMAN, A. M. 1994. *Qualitative data analysis: An expanded sourcebook*, Thousand Oaks, CA, Sage.
- MILES, M. B., HUBERMAN, A. M. & SALDAÑA, J. 2013. *Qualitative Data Analysis: A Methods Sourcebook*, Thousand Oaks, CA, SAGE Publications, Inc.
- MILSTEIN, M. B., LONDON, T. & HART, S. L. 2007. Revolutionary Routines. Capturing the Opportunity for Creating a More Inclusive Capitalism. In: PIDERIT, S. K., FRY, R. E. & COOPERRIDER, D. L. (eds.) *Handbook of Transformative Cooperation: New Designs and Dynamics*. Stanford: Stanford University Press.

- NEERGAARD, H. 2007. Sampling in entrepreneurial settings. In: NEERGAARD, H. & ULHØI, J. P. (eds.) *Handbook of Qualitative Research Methods in Entrepreneurship*. Cheltenham, UK: Edward Elgar Publishing Limited.
- PATTON, M. Q. 2002. *Qualitative Research & Evaluation Methods*, Thousand Oaks, CA, Sage Publications, Inc.
- PENROSE, E. 1959. *The theory of the growth of the firm*, New York, Oxford University Press.
- PRAHALAD, C. K. & HAMMOND, A. 2002. Serving the world's poor, profitably. *Harvard Business Review*, 48-57.
- RAMACHANDRAN, J., PANT, A. & PANI, S. K. 2012. Building the BoP Producer Ecosystem: The Evolving Engagement of Fabindia with Indian Handloom Artisans. *Journal of Product Innovation Management*, 29, 33-51.
- REDDY, A., K. N. 1999. Goals, Strategies and Policies for Rural Energy. *Economic and Political Weekly*, 34, 3435-3445.
- SALDAÑA, J. 2013. *The Coding Manual for Qualitative Researchers*, London, SAGE Publications Ltd.
- SEELOS, C. & MAIR, J. 2007. Profitable business models and market creation in the context of deep poverty: a strategic view. *Academy of Management Perspectives*, 21, 49-63.
- SHANE, S. 1996. Hybrid Organizational Arrangements and Their Implications for Firm Growth and Survival: A Study of New Franchisors. *The Academy of Management Journal*, 39, 216-234.
- SHEPHERD, D. A. & WILLIAMS, T. A. 2014. Local Venturing as Compassion Organizing in the Aftermath of a Natural Disaster: The Role of Localness and Community in Reducing Suffering. *Journal of Management Studies*, 51, 952-994.
- SIMANIS, E. & HART, S. 2009. Innovation from the inside out. *MIT Sloan Management Review*, 50, 77 - 86.
- SIRMON, D. G., HITT, M. A. & IRELAND, R. D. 2007. Managing Firm Resources in Dynamic Environments to Create Values Looking Inside the Black Box. *Academy of Management Review*, 32, 273-292.
- STRAUSS, A. & CORBIN, J. 1998. *Basics of qualitative research: Techniques and procedures for developing grounded theory*, Thousand Oaks, CA, Sage.
- THAKUR, S. P. 1998. Size of Investment, Opportunity Choice and Human Resources in New Venture Growth: Some typologies. *Journal of Business Venturing*, 14, 283-309.
- UNDP 2011. Human Development Report 2011 - Sustainability and Equity: A Better Future for All. New York, NY: United Nations Development Programme.
- VILLANUEVA, J., VAN DE VEN, A. H. & SAPIENZA, H. J. 2012. Resource mobilization in entrepreneurial firms. *Journal of Business Venturing*, In Press, Corrected Proof.
- WARNIER, V., WEPPE, X. & LECOCQ, X. 2013. Extending resource-based theory: considering strategic, ordinary and junk resources. *Management Decision*, 51, 1359-1379.
- WEBB, J. W., KISTRUCK, G. M., IRELAND, R. D. & KETCHEN, J. D. J. 2010. The entrepreneurship process in base of the pyramid markets: the case of multinational enterprise/nongovernment organization alliances. *Entrepreneurship Theory and Practice*, 34, 555-581.
- WENGRAF, T. 2001. *Qualitative Research Interviewing*, London, SAGE Publications Ltd.
- WESTHEAD, P. & WRIGHT, M. 2011. David Storey's optimism and chance perspective: A case of the Emperor's new clothes? *International Small Business Journal*, 29, 714 -729.

- WIDDING, L. Ø. 2005. Building entrepreneurial knowledge reservoirs. *Journal of Small Business and Enterprise Development*, 12, 595 - 612.
- WIKLUND, J. 1998. *Small firm growth and performance: entrepreneurship and beyond*. PhD, Jönköping International Business School.
- WIKLUND, J., PATZELT, H. & SHEPHERD, D. A. 2009. Building an integrative model of small business growth. *Small Business Economics*, 32, 351-374.
- WRIGHT, M. & STIGLIANI, I. 2013. Entrepreneurship and growth. *International Small Business Journal*, 31, 3-22.
- YIN, R. K. 2009. *Case Study Research: Design and Methods*, Thousands Oaks, CA, SAGE Publications. Inc.
- ZERRIFFI, H. 2011. Innovative business models for the scale-up of energy access efforts for the poorest. *Current Opinion in Environmental Sustainability*, 3, 272-278.

Table 1. Overview of respondents.

Person	Date	Place	Type	Length		Language
CEO, Co-founder	Feb, 2012	HPS Headquarters, Patna	Semi-struct. interv.	1 h	28 min	English
CEO, Co-founder	Nov, 2012	HPS Headquarters, Patna	Semi-struct. interv.	1 h	3 min	English
CEO, Co-founder	Nov, 2012	HPS Headquarters, Patna	Semi-struct. interv.	1 h	10 min	English
COO, Co-founder	Nov, 2012	HPS Headquarters, Patna	Semi-struct. interv.	1 h	15 min	English
COO, Co-founder	Nov, 2012	HPS Headquarters, Patna	Semi-struct. interv.		46 min	English
VPO	Nov, 2012	HPS Headquarters, Patna	Semi-struct. interv.	1 h		English
Team, 6 persons	Nov, 2012	Field office, Tamkuha	Group interv.	1 h	59 min	English/Hindi
Team, 5 persons	Nov, 2012	Field office, Bettiah	Group interv.	1 h	45 min	English/Hindi
Manager	Nov, 2012	Power plant, Suklahi	Semi-struct. interv.	1 h	26 min	Hindi
Manager	Nov, 2012	Power plant, Misir Batraha	Semi-struct. interv.	1 h	3 min	Hindi
Manager	Nov, 2012	Power plant, Pataili	Semi-struct. interv.	1 h	36 min	Hindi
Manager	Nov, 2012	Power plant, Kundilpur	Semi-struct. interv.	1 h	28 min	Hindi
End-user	Nov, 2012	Private household, Pataili	Unstruct. interv.		15 min	Hindi
Total				16 h	14 min	

Table 2. Sequential deployment of power plants at HPS using different growth modes.

	Growth mode	2007	2008	2009	2010	2011	2012	Total
Power plants installed annually	GM1 - Organic	1	2	7	32	7		49
	GM2 - Hybrid				3	17	1	21
	GM3 - Organic				3 ^a	1 ^a	5	9
Total		1	2	7	38	25	6	79

^a Special cases of power plants bought outright by primary agricultural cooperatives (PACS).

Table 3. Key features of the HPS growth modes.

Growth mode	Business model characteristics		Logic
	Strategic Positioning	Activities	
GM1 – Organic growth Growth through acquiring new village households as customers	<ul style="list-style-type: none"> • <u>Customer:</u> Village household. • <u>Offering:</u> Access to reliable, cheap electricity • <u>Value Proposition:</u> <ul style="list-style-type: none"> ▪ Reliability of electricity (versus central grid) ▪ Quality of light, no indoor pollution and cheaper electricity (versus kerosene/diesel) 	Build, own, operate, maintain (BOOM) <ul style="list-style-type: none"> • Direct sales to end users of electricity • Daily operation and maintenance of power plants • Collection of payments, monitoring and repair of connections • Setting up new plants • Acquiring new customers 	Establish as much interaction as possible with all potential stakeholders, especially end-users, to learn and gain as much experience as possible from the context
GM2 – Hybrid growth Growth through acquiring local village entrepreneurs as partners, in turn selling to more end users	<ul style="list-style-type: none"> • <u>Customer:</u> Village entrepreneur • <u>Offering:</u> Power plant and loans • <u>Value Proposition:</u> <ul style="list-style-type: none"> ▪ Access to loans through HPS and the ability to generate a profit using a proven technology ▪ Access to free training 	Build, own, maintain (BOM) <ul style="list-style-type: none"> • Acquiring village entrepreneurs as partners • Providing training in the operation of power plants • Providing maintenance services • Setting up power plants 	Convince local banks of the technical and economic feasibility of power plants owned by local entrepreneurs, so that local banks will provide loans in the future
GM3 – Organic growth Growth through increasing the direct sales of power plants	<ul style="list-style-type: none"> • <u>Customer:</u> Village entrepreneur • <u>Offering:</u> Power plant • <u>Value Proposition:</u> <ul style="list-style-type: none"> ▪ The ability to generate a profit using a proven technology ▪ Access to training 	Build, Maintain (BM) <ul style="list-style-type: none"> • Selling power plants • Providing training in the operation of power plants • Providing advanced maintenance services • Setting up power plants 	Large-scale dissemination

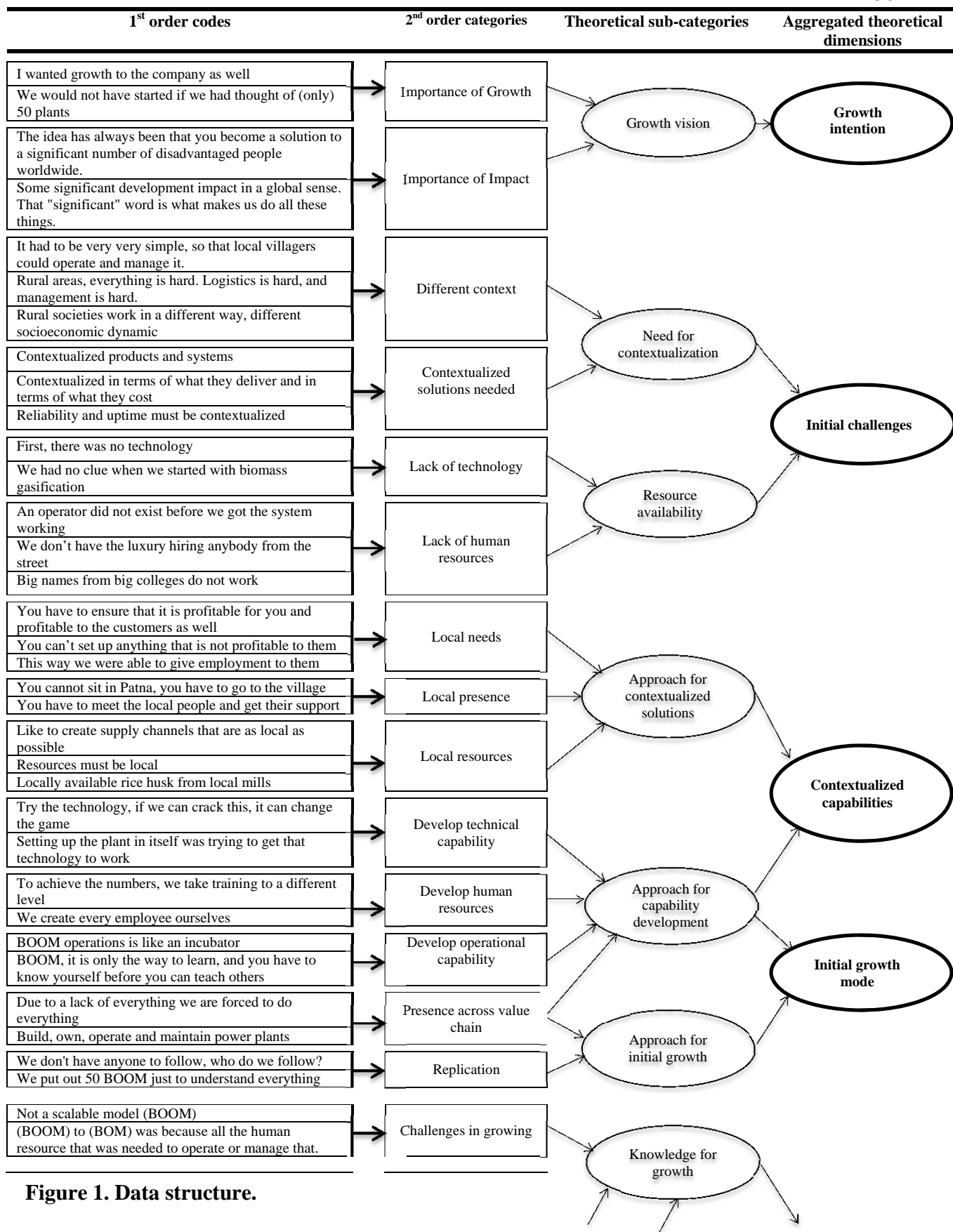


Figure 1. Data structure.

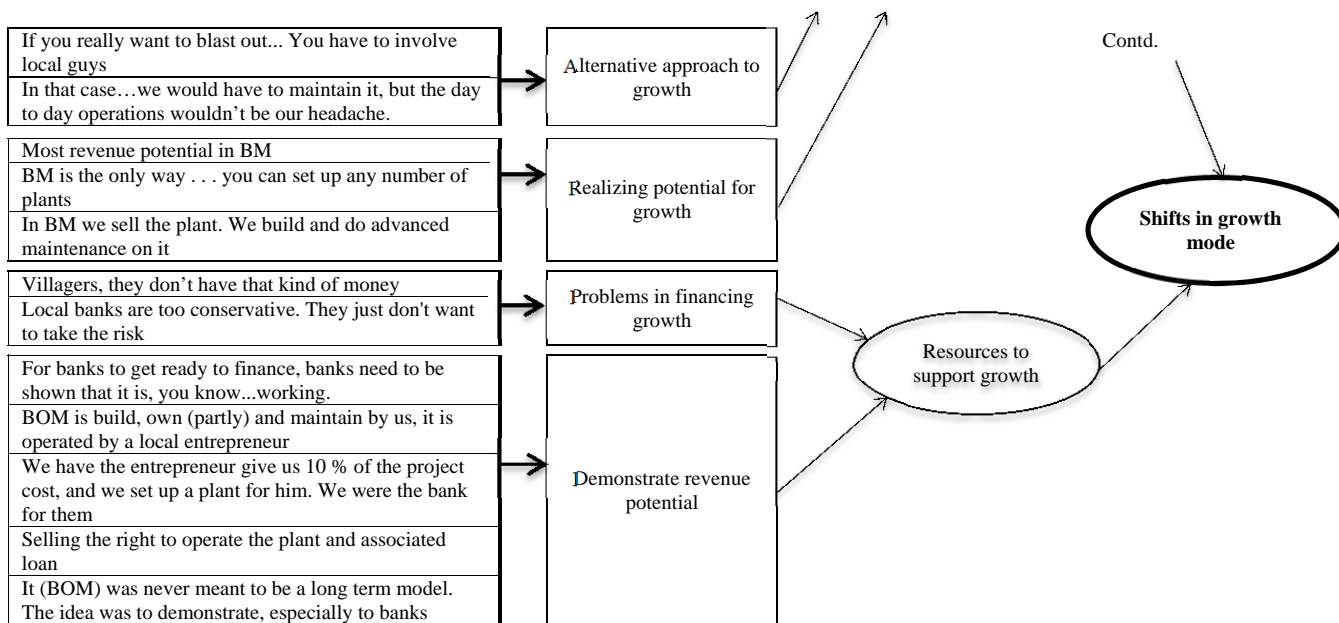


Figure 1. Continued