“Business development in the early stages of commercializing disruptive innovation: considering the implications of Moore's life cycle model and Christensen's model of disruptive innovation”

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Business development in the early stages of commercializing disruptive innovation: considering the implications of Moore's life cycle model and Christensen's model of disruptive innovation

Abstract

This article discusses business development (BD) as an activity different from selling or key account management, intended to find and develop new revenue opportunities. The case is made that BD's role is particularly important in the commercialization of disruptive innovations – innovations that disrupt the current infrastructure of market structure of an industry. The authors present the results of a comparison of two popular conceptual models of the commercialization of disruptive innovation: Moore's technology adoption life cycle (TALC) and Christensen's model of disruptive innovation (MDI). This comparison is limited to the early part of each model, covering the period from the beginning of commercialization to the point at which rapid growth in sales is established. Each model draws implications for marketing actions to expand beyond first customers and grow sales. However, the two models taken together make the implications for marketing actions unfeasible in some way. This article raises several research questions and considerations for methodology, to better understand these commercialization processes. The article also suggests that "BD" – exploratory customer contact to find, learn about, and address opportunities – is a way to overcome problems that emerge from the comparison of the models.

Keywords: business development, disruptive innovation, technology adoption, technology adoption life cycle, marketing of innovations.

Introduction

This paper is largely conceptual. It discusses Business Development (BD) as a marketing activity, a specific kind of relationship marketing management. After making the case that BD is different (though maybe not wholly distinct) from other functions, such as personal selling and key account management, we focus on its role in the development and early commercialization of disruptive innovation. Disruption focuses on the impact of the innovation – the current infrastructure and market structure are disrupted. We focus on this fairly specific setting – early in the commercialization of disruptive innovation – because this seems to be a particularly difficult part of the innovation diffusion process for companies to navigate successfully. Two process models of disruptive innovation diffusion – Moore's technology adoption life cycle (TALC) and Christensen's model of disruptive innovation (MDI) – emphasize this difficulty. We will compare these two models and show that the problem that companies face in addressing this part of the process should actually be more difficult than they say individually. We will then discuss a way for companies – both established companies and startup companies – to use BD to overcome the difficulties they will encounter in commercialization efforts. We end with a set of research questions to pursue and understand disruptive innovation better and how to address the early stages of the process effectively.

1. Business development as an activity to develop new revenue

"BD" is a concept that has received limited direct exposure in the academic literature (Davis and Sun, 2006). In the practitioner world, many companies now have parts of their organizational structure devoted to BD. While the definition varies from company to company, BD has generally come to mean the development of new revenue for the company.

We have found only three studies having to do with BD. Coulson-Thomas found that growth oriented companies in the UK believed that they needed more emphasis on activities aimed at "winning business." A study by Keil et al. (2008) concerned the external BD activities of established companies, but their research focused only on corporate venture capital, mergers, acquisitions, and strategic alliances. This is a common perspective on BD, subsumed largely in the literature on strategic alliances among large, established companies, Davis and Sun (2006) noted the scarcity of literature on BD and conducted an exploratory study involving a survey of IT firms in Canada. Their research demonstrated that BD was a recognized concept in the population surveyed, documented the kinds of functions done in BD, and initiated the conversation on BD as an element of corporate venturing that needed more investigation. These studies at least establish that some researchers are beginning to see BD as a phenomenon that warrants more investigation. However, they do not concern BD's role in the commercialization of innovation.

We became interested in the role of BD as we heard from entrepreneurs and marketers about positions and roles referred to as "BD" and as we turned up so little research on BD. In talking with practitioners, we noticed a degree of variability in how this role was defined. We also saw that BD was often crucial in the development and execution of the strategy of the company, particularly in startup companies. So, we undertook an exploratory effort to learn more about it. This paper, then, reports on discussions with twelve "business developers."

1.1. The interviews. To begin our exploration, we sought a convenience sample of entrepreneurs and marketers who were or had been responsible for BD. We asked five general questions with follow up questions for clarification and elaboration. The questions concerned:

1. The respondent's definition of BD.
2. Whether the respondent distinguished BD from selling, key account selling (or key account management), channel management, or relationship marketing, and if so, how?
3. What is it that makes BD work well?
4. Does BD differ at different stages of the product life cycle or the technology adoption life cycle, and if so, how?
5. A query about one of our initial hypotheses, to what extent did the respondent agree or disagree with the idea that BD discovers what customers are really like and finds a way to address their needs.

The respondents were all higher level decision makers within the organizations they ran or worked for. In each case, we discussed at least one example of a BD effort in which the respondent had been involved. The respondent described what happened from the beginning to the end and responded to clarification and follow up questions concerning the definition of BD, as well as what works well or does not work well and under what conditions.

1.2. Interview results. There was some agreement among the respondents on what BD includes. However, no respondent included all the purposes and activities that surfaced. This result was similar to the results obtained by Davis and Sun (2006).

The key things that stood out from our interviews were that BD focused on the following:

- finding new opportunities;
- learning about the nature of opportunities and how to address them through direct contact with potential customer-partners;
- constructing a business model for addressing an opportunity;
- working with partners to address the opportunity;
- launching the effort to address the opportunity and learning from the experience.

There seemed to be agreement that BD encompasses more purposes and activities than key account selling. Key account selling focuses sales efforts on the most important customers addressed by the company. The literature and thinking on key account selling tends to focus on sales relationships with customers that are already established as customers of the company (c.f. Ivens and Pardo, 2007). This is quite different from the idea of BD that we encountered, in which the sales efforts were focused on initiating and developing relationships with new customers. These new customers were usually considered important customers and the relationships so close as to rise to the level of partnerships.

Our respondents agreed that BD includes external contacts. In most cases, this includes contact with customers, but can also include contact with potential partners. These partners can be product or channel partners. They can also include supply partners.

Our respondents also focused on an analytic component to BD, involving market analysis. BD starts with an environmental scan to start identifying potential opportunities. This involves a sweep of the business press, trade press, and third-party research. It may involve in-depth interviews with industry luminaries or insightful customers.

The nature of contact with prospective customer partners is quite different from sales contacts. Approaching prospective partners involves probing for needs and gaining an understanding of the partner's situation, both current and future. It is an interaction focused much more on learning than on selling.

Another activity that differs from key account or strategic selling is BD's concern with finding a workable business model. The business developer may have a working model in mind when first starting to research opportunities. Otherwise, the developer's model may be only partially structured. In either case, the developer knows that the learning process will work towards finding and refining a model that makes sense for the developer's company and the company's partners.

The interviewees also recognized that BD is a key activity early in an innovative company's existence. Their narratives suggest that the nature of BD changes as the life cycle for an innovation progresses. Early in the life of a startup attempting to commercialize an innovation, the entrepreneur often engages in finding first customer partners that can collaborate with the startup to develop and define

the innovator's offering. Later in the life of the innovation, as well as the life of the startup, BD looks to translate the early success with first customer/ partners to new business in new market segments, potentially with altered products or business models for those new segments.

2. Practitioners and academics develop the concept of business development

The role of BD in commercialization of breakthrough innovation (very close to the same concept as disruptive innovation) is discussed by O'Connor et al. (2008). These researchers have studied breakthrough innovation in established companies and have developed a concept of a breakthrough innovation system, consisting of three elements – discovery, incubation, and acceleration. The conceptualization of incubation has at its core the development and testing of a business model. This involves probing prospective customers, developing early commercial versions of new products and new businesses, and testing them with real customers. The purpose is to generate learning – about customers, markets, and infrastructure – at the same time as developing initial customers. Thus, their concept of incubation is very close to what we are calling BD and it is one of three important pieces in the commercialization process.

Steven Blank (2005), in discussing the startup process in new technology companies, also describes a marketing activity that is very close to what we have called BD. His experience with startup companies leads him to believe that a formal process of "customer development" must be pursued in parallel with the process for new product development. The process is iterative and relies on a combination of analysis and customer contact. A limited number of customer development partners provide early revenue and a great deal of learning. Blank emphasizes how important this process is for entering a new market with a new product. Introducing a disruptive innovation certainly can be described as a new product being launched into a new market.

BD, as presented here, fits nicely with key ideas that are emerging at the interface between the fields of marketing and entrepreneurship. Current thought on entrepreneurship and marketing would suggest that something like BD is an important part of marketing in startup companies. Management and marketing theorists have discussed special aspects, qualities, or forms of marketing that would entrepreneurially create superior performance. The use of BD in the early stages of deployment of disruptive innovation, as we have described it, would score high on all seven dimensions of entrepreneurial marketing as presented by Morris et al. (2002, pp. 5-8):

- proactive orientation;
- opportunity-driven;
- customer intensity;
- innovation-focused;
- risk management;
- resource leveraging;
- value creation.

BD is also an instance of effectuation as described by Sarasvathy (2001). As situations present themselves, the business developer perceives them as opportunities and takes action to take advantage of them. Similarly, BD efforts at these early stages of commercialization of innovation are intended to change customer behavior and to change infrastructure, i.e., they are market-driving activity as Jaworski et al. (2001) have depicted it. Thus, as we have portrayed it, the marketer/business developer has a job that is responsible for entrepreneurial marketing, effectuation, or market-driving in these situations. The BD position plays a role that is a systematic implementation of these entrepreneurial marketing concepts.

So, more specifically, how should BD be defined? For purposes of this paper, when we think of BD, we have in mind activities aimed at finding and "developing" sources of new revenue. In general, this could include new business or new revenue from new customers in existing segments, new business from new segments, or new business from new industries. The new business can come from new products, existing products, new versions of existing products, or existing products offered with additional service features. One specific definition of BD comes from Davis and Sun (2006, p. 146) and seems appropriate for this paper:

"... a capability comprised of routines and skills that serves to enable growth by identifying opportunities and guiding the deployment of resources to extend the firm's value creation activities into technological or market areas that are relatively new to the firm."

It is still early in the emergence and evolution of this concept of BD and its distinctive character has not yet been well defined. Further, it does not have a commonly agreed upon language that describes it and its role. However, it seems clear that both practitioners and researchers recognize that BD, or something like it, has an important role early in the commercialization of disruptive innovation.

3. Business development in the early stages of disruptive innovation commercialization

BD is apparently an element of marketing that deserves more attention in marketing theory, development of practical methods, and marketing and entrepreneurship education. Increasing our under-

standing of BD holds potential, over time, for improving the understanding of opportunity recognition, commercialization of new products and the adaptation of marketing plans to market realities. There is one important area of knowledge, though, in which an urgent gap exists where we believe that BD concepts can provide practitioners a way to cope. That important area of knowledge is our understanding of disruptive innovation, particularly the early part of the process of commercialization of disruptive technology.

Disruptive innovation is important because of its impact. Recall that disruptive innovation is defined simply as innovation that disrupts the current infrastructure and market structure of an industry (or even several related industries). Examples of somewhat recent disruptive innovations have been such things as cellular phones, the Internet, personal computers, Internet publishing, microwave ovens, iPods and iTunes, publicly organized recycling, derivative-based investment instruments, and ubiquitous gourmet coffee shops. The impact is important because so much economic growth depends upon the emergence and growth of these disruptive innovations.

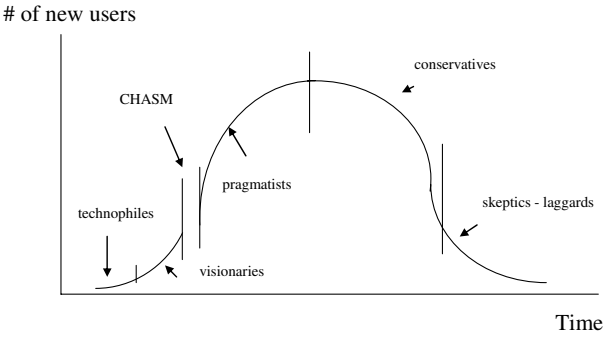
Briefly, two popular conceptions of disruptive innovation offer conflicting views of how companies must act in early commercialization efforts to be successful. In recent years, Geoffrey Moore and Clayton Christensen have researched and explored how disruptive innovations emerge and become commercialized. They both take a process point of view and discuss very similar phenomena. The implications that they draw from the models they have developed are similar in many ways, but also differ in some key respects. From the point of view of an entrepreneur, an innovator, or a marketer, the differences are significant enough to make Moore's and Christensen's recommendations for managerial action contradictory. Because these two points of view should coincide, the purpose of this article is to begin to evaluate where these differences lie, how the differences might be resolved, and what the meanings are for managerial action. The article focuses on the early stages because, whether from Moore's point of view or Christensen's, managers and academics still do not understand well how to successfully navigate this period of high uncertainty.

In the next two sections, we briefly lay out the basics of their two concepts in order to provide a context for understanding the problems we identify and our introduction of BD as a way to mitigate the problems.

4. Moore's technology adoption life cycle

Geoffrey Moore's concept is the TALC (Moore, 1991; 1995; 2002; 2005). The concept builds on Everett Rogers' observations on the diffusion of innovations (the most recent edition is Rogers, 2003), specifically that adoption or diffusion of an innovation occurs as adoption by a sequence of adopter segments. Moore observed the emergence of the personal computer industry and related technologies during the 1970s and 80s. He noted that technical innovations are adopted by different market segments in sequence, in similar fashion to the sequence described by Rogers.

Moore described generic adopter segments – generally in business markets, rather than in consumer markets – in terms of their propensity to adapt to the disruption imposed by adopting the new technology. Figure 1 shows Moore's concept of the TALC with its sequence of adopter segments.



Source: Adapted from Moore (1991, p. 17).

Fig. 1. Moore's technology adoption life cycle

Quick definitions of the adopter categories are as follows:

- technophiles like new technology mostly because it is new and intriguing;
- visionaries see the "vision" of gaining a competitive advantage through adoption. They are willing to put their organizations through the trauma of adopting new technology so that they can get ahead of the competition;
- pragmatists in business-to-business markets want to remain competitive with the leaders in their industries. However, they want the adoption to be straightforward and relatively pain-free;
- conservatives wait to adopt until they see a clear advantage specifically for their own situations. They will not adopt until it is easy to do so, it is easy to use the product offered, and usually they want a significant cost savings;
- Skeptics hold out until they have no choice but to adopt. Often they take pride in not adopting – they insist that the "old way" of doing something is good enough.

Moore says that, as the marketer looks forward, each new adopter group requires a different approach in marketing to them. The differences between the adopter categories create discontinuities in the marketing strategies of companies trying to progress from one category to the next.

Moore believes that the difference between visionaries and pragmatists is so severe that a "chasm" occurs between visionaries and pragmatists. The chasm is a severe decrease in sales from new customers: there are no new visionaries and pragmatists have not started to adopt yet. Moore says that to cross this chasm, the marketer needs to find one segment of pragmatists – a beachhead segment – that needs the product or offering so badly that they are willing to adopt it without having other, credible pragmatists adopt before them. Moore claims that this beachhead segment must be approached with a "whole product" offered. The whole product includes service and delivery provided, usually by channel partners, so that the solution to the customers' problem is both easily obtained and easily put to use.

After the beachhead, the innovator needs to find similar segments whose needs are close to those of the beachhead and begin the process of translating the offering for these next segments. Moore calls this the "bowling alley" where one segment "bumps" adjacent segments, which process is repeated in a chain reaction much the same as bowling pins knocking over their neighbors in a bowling alley. Marketing in the bowling alley requires addressing each of these segments with a whole product adapted to their particular needs.

If the concurrent technical and business model improvements hit upon an offering and business model that holds ubiquitous appeal, the TALC moves into the "tornado" phase, in which remaining pragmatists all begin to rush to buy the product. The way to market in the tornado, according to Moore, is to make the offering generally known and broadly available. We have seen recent examples of this phenomenon with Apple's iPhone and iPad products.

Our interest in this paper is the applicability of BD as a means to address the problems caused by market uncertainty early in commercialization process. By the time the TALC reaches the tornado, uncertainty is rapidly turning into certainty and the problem for the innovator of learning and adapting is quickly dissipating. Therefore, the beginning of the tornado is the boundary of the scope of this paper.

5. Christensen's model of disruptive innovation

Clayton Christensen studied innovation and adoption patterns in the disk drive, excavator, sheet steel, and accounting software industries – and later in several dozen industries – and made a number of observations that changed the way the innovation diffusion process is conceived (Anthony, Johnson, and Sinfield, 2008; Christensen, 2000; Christensen and Raynor, 2003; Christensen, Anthony, and Roth, 2004). Christensen observed that leading suppliers of existing products based on a dominant technology very often are not the suppliers that introduce – and benefit from – a disruptive technological innovation that supplants the existing product or business model. The principal reason, he observed, was that existing suppliers are embedded in an existing value network that constrains their ability to introduce disruptive technologies, products, and business models. An important part of the constraint comes when an established company within the existing value network talks with their existing customers to test the concept of the new product or business. These customers are invested in the existing solution based on the existing technology platform; adoption would represent a disruption to their own business model. Hence, they do not want the innovation to be offered.

Thus, the leading suppliers' decision criteria for developing new products and commercialization of innovations are all biased toward supporting incremental innovations that build on the existing technology base. This opens the door for startups or second-tier suppliers to develop and introduce disruptive innovations and profit from them.

Christensen et al. go on to say that the first successful markets for the disruptive innovator are comprised of first customers for the innovation that are:

- "over-served" – customers do not need all the functionality or performance of the standard products in the market based on the prevailing technology platform; or
- "non-customers" – customers' needs cannot be met by the standard products, they do not have access to standard products, or they cannot afford the standard products in the market that are based on the prevailing technology platform.

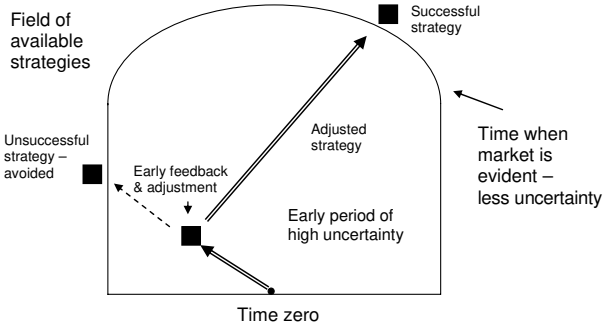
If the innovator launched the commercialization effort with these kinds of customers, the incumbent market leaders tended not to see the newcomer as a competitor since the newcomer was not addressing the leader's current customer base. Very often, the innovative product does not have the same level of performance as the leading products, but it is better on another dimension that is important to the over-served or non-customers that makes up for it.

For instance, cellular telephones often did not have the clarity of reception that landline telephones have. However, initial customers such as sales people, who were over-served by landlines, were willing to accept this as a trade off as long as they could stay in close, constant contact with their customers and prospects. Thus, cellular telephony found initial customer adoption among those customers who did not need the clarity and reliability of landlines.

This model of disruptive innovation – the MDI – goes on to describe a process by which early stage innovators obtain a foothold in the market with those customers who had been over-served or who had previously not been customers at all. These early customers help prove the concept of the innovative product to other customer groups. As the innovative product or business model is further developed, it becomes attractive to customers who had been in the mainstream for the products based on the prior technology platform. Gradually, the products based on the new platform overtake the old and the innovation has disrupted the old industry. The example of how cellular telephones became ubiquitous illustrates this process.

Another key observation for our purposes in this paper is that in the early stages of the emergence of a new industry based on an innovation, entrepreneurs and marketers have difficulty "seeing what's next" – predicting or projecting how the emergence will occur (Christensen and Raynor, 2003). Innovators have difficulty anticipating how customers will react to the new offerings, how they will use the new offering, and even who the most likely adopters will be. Traditional market research where the prospective customer is asked whether they like or want a product (a product that is still being developed) can be very misleading, since the customer has no real experience with it. The marketer can indeed obtain good information about how customers see their problems, but not about how they will use or respond to innovative products. Market research can be designed to observe customers or do in depth interviewing that focuses on their need situations. However, this research still does not determine how likely a prospective customer will buy the product if it is offered.

Because there is so much market uncertainty, the innovator cannot plan well very far in advance (Anthony et al., 2008). Rather, the innovator will need to take an "exploratory" approach (sometimes called experimental by some authors, though this is largely a misnomer). Early on, the innovator should pursue a flexible path. The innovator should explore different customer types and different forms of the offering to see what works (an approach similar to that researched by Thomke, 2004). A lot of learning occurs during this period and "the path" may take some serious redirections before a successful path emerges (Anthony et al., 2008). This is very similar to IDEO's approach to design – fail fast so that a viable way forward is learned quickly (Kelly, 2001) – and the ideas of Mullins and Komisar (2009), who note that most innovator startups do not pursue their initial business plan, but learn from early market responses and make significant adjustments. Christensen and his associates say that by pursuing small investments early, the paths prone to failure will be evident early, avoiding large wasted expenditures. The successful path will emerge in due course (see Figure 2).



Source: Adapted from Anthony et al. (2008, Chapter 7).

Fig. 2. Adjustment of early strategy in Christensen's model of disruptive innovation

6. Implications of both models considered together

Christensen and Moore seem to be describing very similar phenomena, for the most part. Many of their observations are consistent:

- difficulty in identifying early adopters;
- addressing the right segment(s) is key to moving forward with adoption;
- high degree of uncertainty about how the technology, market, and competition will emerge and evolve.

Christensen says innovators should handle the early market uncertainty by "experimenting" – by pursuing informed trial and adaptation to find a workable business model and customers most in need of the innovative offering. The company's first offering will probably encounter only limited success initially. The company will have to take the learning that comes from initial efforts and translate it into a more workable business model. Moore, on the other hand, points out that a great deal of the uncertainty comes from the differences between early customers, visionaries, and the next wave of adopters, who are pragmatists. Applying Moore's idea to Christensen's model raises the concern that what is learned in early trials – with visionary customers – will probably have little relevance to the next wave of adopters, the pragmatist customers. Consequently there is a likelihood (of unknown magnitude) that the trial-and-adjustment approach will not be useful in finding a workable business model.

If we apply Christensen's observations to Moore's recommendations for practitioners, we achieve a similarly unworkable result. Moore says that to "cross the chasm" – making progress from visionary to pragmatist customers – the innovator must choose a beachhead willing to take the pragmatist's uncha-

acteristic leap of faith to adopt. Moore focuses on analysis to find the beachhead segment. However, if we accept Christensen's observation that markets are very uncertain at this early stage, Moore's approach then has two significant problems. First, it is unlikely that analysis will provide a satisfactory answer to the question of which segment to choose as the beachhead (Moore insists that an experimental approach is unworkable. Trying to simultaneously address several candidate segments, hoping one will turn out to be a good beachhead, will spread the innovator's resources too thinly and doom the effort). Second, the innovator must provide the "whole product," including a delivery/service channel, for the beachhead segment. Applying Christensen's observations to this, we note that uncertainty produces a great deal of risk for the channel members – something that channels are normally loathe to take. Hence, Moore's recommendation for progressing in the commercialization of the disruptive innovation is just as prone to produce disappointing results as Christensen's.

In summary, when both Christensen's and Moore's models are considered simultaneously, market uncertainty early in the commercialization process creates problems that neither Christensen nor Moore completely address:

1. Christensen says to address early uncertainty, use an iterative experimentation approach to discover the right strategy. However, early learning would appear to come from visionaries and not reflect the realities of dealing with a pragmatist market.
2. Moore says that to enter the pragmatist market, the marketer must find a beachhead niche whose need is so great that they are willing to adopt ahead of other pragmatists. The whole product, including delivery/service channels, must be offered, requiring all the innovator's resources to be focused on this one niche. However, the market uncertainty of early commercialization makes such all-or-nothing focus very risky. Also finding a channel willing to take such a market risk is very difficult.

From an academic's viewpoint, the answer is to pursue a research agenda that clarifies the conundrum, consolidates and adjusts the two models, and suggests and tests managerial approaches to addressing this uncertainty problem. We will discuss the need for research in the research directions section of this paper below. However, there is urgency for practitioners to address this issue once it is recognized. We noted the impact of disruptive innovations. Recognizing the impact for firms and for the economy, it becomes imperative to offer some ray of hope for practitioners who face the problems caused by the high degree of market uncertainty associated with disruptive innovations in the meantime while research is being done to better understand the process and find solutions.

Our early investigations into BD, mentioned above, suggest another approach that may be useful in "finessing" the problems a practitioner is likely to face in early commercialization. Our next section suggests pursuing BD in three types of audiences while the innovator is actively marketing to visionary customers. These recommendations bring to the surface additional research questions, which are also raised in the final section on research questions.

7. Addressing the problem of market uncertainty with business development

The analysis above leaves us with the problem of how to handle uncertainty in the early part of the commercialization process for a disruptive innovation. Drawing from both Christensen and Moore, it would seem that the early market for a disruptive innovation has the following characteristics:

- visionary customers are first, who are either new customers or "overshot" customers for the prevailing solutions to the customer problem addressed by the innovation;
- there are much more potential pragmatist customers, in segments, than there are existing and potential visionary adopters;
- there exists a great deal of uncertainty about how customers will react to the new innovation and which segments of customers will be first to adopt as visionaries, what segment will likely comprise the beachhead, and who will be the later pragmatist adopters;
- a value chain for the innovative offering is not in place. There exists a great deal of uncertainty about who will be the competitors, the suppliers, the channels, and the product partners.

BD in this setting would involve probing to learn the customers' perspective in how they see their problems and needs. Our interviews and the other sources on BD, discussed above, indicate that this approach works well in learning about customers when there is a high level of uncertainty. Thus, in the time period when first customers – visionaries – are being addressed, we see a three-pronged role for BD. These three purposes are:

- finding and engaging more early customer/ partners (visionaries);
- finding/learning about potential next partners (pragmatists);
- finding/developing relationships with potential channel partners that can address pragmatists.

The attempt here is to generate significant revenue as well as significant learning.

BD with visionaries is intended to enlist their aid in learning and adapting the innovation (improving the product or business model). After generating revenue with several visionaries, the marketer would begin BD efforts with pragmatists. It will be too early to begin actual selling to pragmatists, since a whole product is not yet ready. However, the BD effort will generate information and begin the search for likely beachhead segments. The direct contact with pragmatists will need to be augmented with secondary data collection efforts across a broad swath of potential pragmatist segments. This is intended to find clues to potential beachhead segments and other potential early pragmatist segments. These efforts might include such things as visits to trade shows, perusal of blogs and discussion sites on the web, and examination of secondary data from government agencies' and trade organizations' web sites.

Concurrent with these efforts to get information about potential pragmatist segments, the marketer would begin BD efforts to explore distribution and service channels. The marketer is looking for potential partners to help with creation of a whole product. The methods to find companies to approach and to collect secondary data are the same as those for finding data on pragmatist customers. The right channel partners for the beachhead segment are likely to be channels that are both flexible and desperate. A generic channel that provides added service value, such as an independent software vendor in a systems innovation, is potentially flexible enough to adapt to a certain amount of experimentation. Desperation is likely to fuel the channel's efforts to find a new segment to target. Thus, a channel with desperate channel members – i.e., they do not have a customer base that is sustainable over the long term and they are looking for an emerging market that can provide enough revenue to insure the channels' long-term viability – would be ideal to work with.

Once the marketer's company has approached the beachhead segment, the three kinds of BD need to be maintained, but redirected. First, a BD effort needs to continue among the beachhead segment until most of the segment members know what the product is all about. Concurrently, the BD effort among other pragmatists outside the beachhead segment would continue. As experience with the beachhead combines with learning from BD, the marketer can begin BD efforts with the next segments in the bowling alley. Initial customers in each new segment become partners in adapting the product and offering for each segment. Thus, these initial segment customers would be given special benefits to compensate them for being second tier development partners. This effort to "translate" the offering for subsequent bowling alley segments is conducted by field marketing development specialists, which perform a combination of BD and selling (Vitale et al., 2011).

The third kind of BD, BD with distribution/service channels, also would continue, but it should begin to look for other channels that can be adapted to the later members of the bowling alley and to general distribution as the number of end use customers increases.

Conceptual questions and directions for research

The foregoing discussion points out that there is still much that we do not fully understand about the early stages of the deployment and adoption of disruptive innovation. In this section, we present four clusters of questions that can guide the direction of research to better understand these processes.

The MDI says that there are generally two types of customers for disruptive innovations: over-served customers who do not need all the features and capability of currently available products and who would prefer a different product that is more convenient or less costly; and non-consuming customers who cannot afford, cannot use, or cannot obtain the existing solution to their product. The TALC holds that the initial revenue-generating customers (technophiles not included) are visionaries who are willing to buy an imperfect solution-in-development so they can get ahead of the competition. This is the first area of divergence between the two models and the difference can be reconciled empirically.

Accordingly, a first set of research questions to shed light on the divergence between the two models would ask: Do early stage customers for disruptive innovations tend toward being non-consumers, over-served consumers, or visionaries? Are visionary customers a subset of non-consumers, over-served consumers, or are they something else entirely? Under what circumstances do visionary customers appear?

Moore claims the existence of a "chasm" – a period when sales from new customers drop off precipitously – between the adoption by a visionary segment and the adoption by pragmatists. Christensen does not mention or accommodate such a discontinuity in adoption. The occurrence of the chasm is not crucial for evaluation of the usefulness of either model. However, if the chasm is routinely part of the diffusion process for disruptive innovations, it lends credibility to Moore's analysis and conclusions. The occurrence of differences between the earliest adopting segments (visionaries) and early majority adopting segments (pragmatist) would seem to be important for both models. The TALC is based on the idea

that such differences exist and Moore's conclusions and recommendations derive from this assertion. The differences between early segments and later segments call into question the experimental/exploratory approach advocated by Christensen's associates (Anthony et al., 2008). Accordingly, the next set of questions concerns the chasm and segments: Do sales patterns for the commercialization of early-stage disruptive innovations display a "chasm" as claimed by Moore? Are there circumstances when the chasm does not occur? Do new customers for early-stage disruptive innovations come from a sequence of segments and if so, are these segments reflective of the distinction between visionaries and pragmatists that Moore describes?

Both Moore and Christensen claim that analysis to find and understand first customers will improve the performance of the innovator in introducing and commercializing a disruptive innovation. Moore says that this analysis comes into play first in crossing the chasm into a pragmatist beachhead. Christensen says that analysis helps the marketer from the beginning to understand potential customers' circumstances and the problems they are trying to solve. Later, Christensen's co-authors acknowledge that it is difficult to anticipate completely how customers and competitors will act and so they espouse an exploratory approach to finding a workable marketing strategy (Anthony et al., 2008). Accordingly, another set of research questions revolves around the following: Is market research and analysis used by marketing managers in the planning of marketing for the commercialization of disruptive innovations generally successful in (a) identifying future target segments, (b) determining which ones are most likely to buy first, and (c) designing workable marketing strategies? If the answer is "not entirely," do companies that take an exploratory approach, combined with analysis, fare better than companies that do not take the exploratory approach? What circumstances make this more or less effective?

Moore believes the beachhead segment of pragmatists will generally require the proven product delivered through the appropriate distribution channels with appropriate service partners providing whatever service is needed. If Christensen and company are correct, though, innovators will have little or no information on appropriate channels and even if they do, it will be difficult to find channels willing to take the leap of faith in supplying goods or services to an unproven market. Accordingly, the next group of questions concerns channels, service providers, and pragmatist customers: Do "next" segments – the early pragmatists – require delivery channels that are attuned to their needs? Is growth dependent on distribution via third parties that address pragmatists' delivery needs? The same questions apply for service partners for next segments.

So, these are the key questions that comprise a research agenda to gain understanding about the marketing challenges faced in early stage deployment of innovations. On the surface of it, the key components of the TALC and MDI would seem to have validity: the segmentation basis of the TALC, particularly the chasm between visionaries and pragmatists, and the uncertainty of unknowable and unpredictable market behavior of the MDI both seem to make sense and were reportedly observed in the research done by the two authors, Moore and Christensen. If they both indeed have validity, then we would expect that "crossing the chasm" would tend to be more difficult than either Moore or Christensen would expect. Pursuit of these research questions would confirm these difficulties and begin to suggest ways to address the difficulties.

The earlier discussion of the use of BD to address the uncertainty problem raises some additional research questions of a more applied nature:

1. Does BD improve the marketer's likelihood of success over marketing by only traditional means?
2. How are transitions from BD to other forms of marketing successfully accomplished?
3. Do visionaries only appear in business markets or are there early segments – perhaps based on consumer innovativeness – in consumer markets that can be drawn on for their willingness to participate as co-developers? Is BD a useful way to work with visionaries in both consumer and business-to-business markets?

Researchers need to be careful with the methods for conducting this research. To make sense of the TALC and MDI, a process research approach would seem to be most appropriate. The TALC and MDI describe processes by which innovations change markets and industries. Aldrich (2001) and Van de Ven (2004) discuss the great need to conduct process research using "event driven" research methods in addition to "outcome driven" research when trying to understand and build theory about processes. Event driven research starts with observation of an event and then it moves to collecting data on the progression of succeeding outcomes. Through interaction with actors in the process, the researcher builds a narrative of how the succession of preceding events leads to outcomes. This approach stands in contrast to outcome-driven research – which comprises the vast majority of published research studies on entrepreneurial processes (Van de Ven, 2004). Outcome driven research starts with observed outcomes of interest – in this case, the commercial success of an industry-changing innova-

tion – and builds backward to identify factors and events that lead up to the outcome of interest.

Two principal approaches to data collection are prevalent in outcome-driven research:

- post hoc interviews with participants obtaining their recall of events leading to the outcomes of interest; and
- survey data collecting participants' recall of antecedent incidents and factors prior to outcomes.

While these methods can shed light on the processes, principal problems include respondents' imperfect recall of events and factors, and the retrospective interpretation that shades the respondent's data. These problems can provide misleading results of all sorts – spurious correlations, omitted variables or relationships, results driven by participants' post hoc rationalizations, correlations misinterpreted as causal, to name a few – unless the research is complemented by event-driven research. A research program addressing the questions discussed above would benefit from longitudinal designs in which managers facing early stages of commercialization are interviewed at multiple points in time.

Summary and conclusions

BD offers promise as a method for marketers to learn about customer needs, develop partnerships with customers, and adapt strategies to market realities. BD may be a particularly useful tool in circumstances in which standard market research methods would not obtain much in the way of useful data and concurrently, the firm needs to begin generating revenue. Such is the case in the early stages of the commercialization of disruptive innovation.

Theory and research on life cycles and processes need time to produce results. Because processes take time to progress, research on processes must ultimately take the time to follow these processes through their steps or stages. There are expedient approaches to process research that can achieve results relatively quickly, but the interpretation of results is vulnerable to criticism that the processes were not observed over time (Aldrich, 2001). This article represents the beginning of an extended research effort to learn more about BD and the early commercialization of disruptive innovations. It lays out several questions and initial thoughts on methodology for answering them.

Yet, this research agenda will take time to unfold and reach usable conclusions. We believe it is important in the meantime to offer some recommendations to marketers and entrepreneurs for dealing with the problems of deploying and commercializing disruptive innovations. The stakes are too high and the problems too important to say to practitioners to wait and see what results are produced by the research.

Consequently, this paper also offers recommendations based on the ideas explored here. We focus on the role of "BD" in early-stage commercialization. When firms deploying a new innovation are doing BD with visionary customers, we suggest that they also need to be performing two other kinds of BD simultaneously. They must be probing potential pragmatist customers, seeking to learn needs and searching for early indications of potential beachhead segments. As the business developers begin learning about pragmatists, they also need to be probing potential delivery/service channels, looking for channels that are seeking new markets and are willing to take more risk than channels that are satisfied with their current customer bases. We go on to suggest that this three-pronged BD effort should be continued with the next segments – into the bowling alley, in Moore's parlance.

In summary, in this article we have explicated two problems of dealing with uncertainty in the early phases of commercialization of disruptive innovation. These problems surface when Moore's technology adoption life cycle and Christensen's model of disruptive innovation are considered simultaneously. We have suggested several research questions to pursue in improving our understanding of the early stages of disruptive innovation. We also suggest that BD needs to be better understood and that it be considered and tested as an tool for marketers to navigate the high level of uncertainty in introducing disruptive innovation.

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