The Theoretical Rationale for a Framework for Appraising the Profitability Potential of a Business Model Innovation

Allan Afuah
Stephen M. Ross School of Business
University of Michigan

Ross School of Business Working Paper
Working Paper No. 1205
October 2013

The theoretical rationale for a framework for appraising the profitability potential of a business model innovation

Allan Afuah
Associate Professor
Strategy Group
Ross School of Business
University of Michigan
afuah@umich.edu

October 2013

Abstract: Because of the uncertainty associated with innovation, it is difficult to assess the profitability potential of business model innovations. However, since theory predicts and explains, and assessing the profitability potential of a business model is about predicting what its profitability will be in the future, we can use strategy theories to help with the assessment. Therefore, I draw on three strategic management theories—the resource-based view, the product-market position view, and the dynamic capabilities perspective to derive a framework for assessing the profitability potential of a business model innovation. I then illustrate how the framework could work by applying it to Quirky's crowdsourcing business model innovation.

Key words: Crowdsourcing, business model innovation, dynamic capabilities, VARIM, resource-based view, product-market position.

Before investing in a business model innovation, an entrepreneur or investor usually needs some way to appraise the model—to determine the extent to which the model is likely to be profitable. Unfortunately, the technological and market uncertainty associated with innovation can make prediction very challenging. Fortunately, three rather complementary strategic management theories make predictions about expected profitability and therefore can be used to assess the profitability potential of a business model innovation. The resource-based view (RBV) of the firm predicts that a firm with resources that are valuable, rare, inimitable, and non-substitutable is likely to earn sustainable profits (e.g., Barney, 1991; Peteraf & Barney, 1991). The competitive positioning or product-market position (PMP) view of strategy argues that a firm with a

complex system of interrelated activities, that strategically positions the firm within an attractive industry, is likely to earn sustainable profits (Porter, 1980, 1985, 1996; Rivkin, 2000). The dynamic capabilities view (DCV) argues that a firm with dynamic capabilities is likely to cope with change better than those that do not have such capabilities, and therefore be able to make money even in the presence of rapid technological change (Helfat & Winter, 2011; Teece, 2007; Teece, Pisano & Schuen, 1997).

By combining the variables from these theories that predict profitability, I derive a framework that can be used to assess the profitability potential of a business model innovation. The argument that underpins the derivation of the framework is simple. The key to the profitability of any business model is the resources and activities that are at the core of the business model (Afuah, 2004). Therefore, the same variables that are used to predict the profitability potential of resources and activities can be used to assess the profitability potential of a business model. The process is completed by recognizing and compensating for the underlying assumptions of each theory.

I start the paper by quickly reviewing RBV, PMP, and DCV, and defining business models. I then synthesize those variables from RBV, PMP and DCV theories that have been shown to drive profitability. From these variables, I build the value, adaptability, rareness, inimitability, and money (VARIM) framework.

The framework differs from previous frameworks in that it compensates for assumptions in RBV, PMP, and DCV that are unrealistic in the context of many business model innovations. For example, theorizing in RBV assumes perfect competition in which firms are price takers, customers are homogeneous, and all actors are cost minimizing (Peteraf, 1993; Barney, 1991). Most firms and their co-opetitors are neither

price takers nor cost minimizers, nor are their customers homogeneous. The VARIM takes the differences between perfect competition ideals and the realities of business model innovation into consideration.

Finally, to illustrate how the VARIM framework can be used, I analyze the profitability potential of Quirky's crowdsourcing business model innovation.

ANTECEDENTS OF THE FRAMEWORK

Before we explore the link between business model innovation and the three theories, it is important to quickly go through the relevant literature on both.

Resource-based view and value creation and capture

The resource-based view (RBV) holds that the magnitude and sustainability of a firm's profits depends primarily on the firm's resources (Barney, 1991; Amit & Shoemaker, 1993; Mahoney & Pandian, 1992; Peteraf, 1993; See also Newbert, 2007 for a review). In particular, profitability depends on the value, rareness, imitability, and substitutability of the firm's resources (e.g., Barney, 1991; Peteraf, 1993; Peteraf & Barney, 2003; Barney & Hesterly, 2005). If a focal firm has valuable resources, it can offer its customers benefits to satisfy their needs. However, if competitors have the same resource, customers can go to them for the associated benefits, making it difficult for the focal firm to make money. If the resource is rare, there are fewer competitors and therefore customers are more likely to gravitate towards the few owners of the resource, increasing each owner's chances of making money. If the resource is easy to imitate or substitute, competitors can replicate any customer benefits that come from the focal firm, eroding any competitive advantages that the owner of the resources may have had. Thus,

the more valuable, rare, inimitable, and non-substitutable a resource, the more that its owner is likely to make sustainable profits (Barney, 1991; Barney & Hesterly, 2005).

Product-market position and value creation and capture

The competitive positioning or product-market position (PMP) view maintains that a firm makes money, not by having valuable resources as suggested by RBV, but by performing a system of activities that enables the firm to offer low-cost or differentiated products that give it a unique position in an attractive industry (Porter, 1996). (An attractive industry is one in which rivalry is low, the threat of substitutes and of new entry is low, and firms have bargaining power over suppliers and customers (Porter, 1980, 1985).) The magnitude of the profits that the firm makes depends on how well the system of activities is consistent with the firm's position (low-cost, differentiation, and scope) (Porter, 1996), and the attractiveness of the industry (McGahan & Porter, 1997; Porter, 1980). Sustainability of profits is positively associated with the level of interrelatedness and complexity of the system of activities (Porter, 1996; Rivkin, 2000).

Both RBV and PMP are needed

In practice, firms need both resources and systems of activities. For example, it is true that Southwest Airline's system of activities—flying largely out of secondary airports, using only one type of airplane, offering no meals, and so on—is what has made the firm so profitable for so long (Porter, 1996). However, it is also true that without resources—such as the gates at airports, the landing slots, employee culture, and so on—the firm would not be able to perform the activities and therefore might not be that profitable.

Business model innovation and the capabilities connection

Definitions of business models can vary considerably (for a review, see Zott, Amit& Massa, 2011). Witness the following five definitions from the top most cited journal papers using Google Scholar citations as of July 29, 2013.[1] A business model:

- Consists "of four interlocking elements, that, taken together, create and deliver value" (Johnson, Christensen, & Kagermann, 2008: 52). The authors identified the elements as customer value proposition, profit formula, key resources, and key processes.
- Is "a system of interdependent activities that transcends the focal firm and spans its boundaries" (Zott & Amit, 2010: 216).
- Is "the heuristic logic that connects technical potential with the realization of economic value" (Chesbrough & Rosenbloom, 2002: 529). The business model has the following components: value proposition, market segment, value chain, structure and profit potential, value network, and competitive strategy.
- Is a "concise representation of how an interrelated set of decision variables in the areas of venture strategy, architecture, and economics are addressed to create sustainable competitive advantage in defined markets" (Morris, Schindehutte & Allen, 2005: 727). According to the authors, a business model has six components: Value proposition, customer, internal processes/competencies, external positioning, economic model, and personal/investor factors.
- Is "an architecture of the product, service and information flows, including a description of the various business actors and their roles; a description of the

[1] Publications were limited to Journal Citation Reports' (JCR) top 50 journals in 2012.

potential benefits for the various business actors; a description of the sources of revenues" (Timmers, 1998: 2).

Since a firm creates value when it offers customers benefits whose costs are less than the benefits, and captures value when the price paid for the benefits exceeds the costs (Lepak, Smith & Taylor, 2007), these definitions of business models—whether explicitly stated or implied—are rooted in resources and the activities that build and/or use the resources to create and capture value (see also, Chesbrough, 2006, 2007; Markides, 2005; Casadesus-Masanell & Ricart, 2010; Gambardella & McGahan, 2010; Afuah, 2002). That is, activities and resources are central to business models.

SYNTHESIZING THE FIRST THREE VARIABLES OF THE *VARIM* FRAMEWORK

Since resources and activities are at the core of a business model, predicting the profitability of resources and activities is tantamount to predicting the potential of a business model. Luckily for us, resource-based view (RBV) and product-market-position (PMP) theory make predictions about the profitability potential of resources and activities, respectively.

RBV's contribution to predicting profitability

Recall that in RBV, valuable, rare, and inimitable/non-substitutable resources give their owners a competitive advantage. That is, value, rareness, and inimitability/non-substitutability predict the profitability of resources (e.g., Barney, 1991; Barney & Hesterly, 2005). Thus, since resources are at the core of a business model, value, rareness, and inimitability/non-substitutability can also be used to predict the profitability

of a business model. The question is, how about activities? After all, they are also at the core of a business model. To answer this question, we return to PMP since it is primarily about activities.

PMP's contribution

In PMP, a system of activities that is consistent with low cost or differentiation is valuable since it contributes to the benefits (low cost or differentiation) that customers perceive as meeting their needs (Porter, 1996). Firm's that offer these low-cost or differentiated products are the ones that are likely to be profitable. If the system of activities is complex and interconnected, there is a high likelihood that it will be rare and difficult to imitate or substitute, thereby leading to higher and more sustainable profitability (Porter, 1996; Rivkin, 2000). That is, the value, rareness, and inimitability/non-substitutability of activities predict the profitability of the activities.

First three components of the framework

Effectively, both resources and activities are at the core of a business model, and their profitability can be predicted by their value, rareness, and inimitability/non-substitutability. Therefore the same three variables—value, rareness, and inimitability/non-substitutability—can be used to assess the profitability potential of a business model. These three variables are the same variables as those in Barney and Hesterly's (2005) VRIO (value, rarity, imitability, and organization) framework. We will return to the differences between the VRIO and the framework of this paper later in the discussion part of the paper.

Value. This variable answers the question: *Does the business model offer benefits that customers perceive as valuable to them?* The rationale here is simple. Money comes from customers who will continue to buy from a firm only if the firm offers them something that meets their needs. That is, a necessary condition to have customers buy from a firm is for the firm to offer them something that they perceive as valuable to them.

Rareness. If a firm's business model offers customers benefits that they find valuable but many other firms offer the same, the firm is not likely to make money. However, if the number of firms that offer the same benefits is small, customers do not have as much of a chance to play the firm against its competitors. Thus an important question in analyzing the rareness variable is: *"Is the firm the only one that offers the customer benefits? If not, is the firm's level of the benefits higher than that of competitors?"*

Inimitability. A business model that is valuable and rare, and therefore makes its owner money, will not do so for long if the model is easy to imitate. Therefore the question for this variable is *"Are the benefits difficult for other firms to imitate, substitute, or leapfrog?"*

LAST TWO VARIABLES OF THE *VARIM* FRAMEWORK

Application of a theory or framework depends very much on its underlying assumptions. Because of the underlying assumptions of the RBV and PMP theories from which the first three variables are derived, the three variables are not sufficient for predicting the profitability of a business model. Why?

Static nature of RBV and PMP: Dynamic capabilities to the rescue

One disadvantage of RBV and PMP is that they are derived from static equilibrium models and therefore say very little about dynamics (Barney, 1991; Peteraf, 1993; Peteraf & Barney, 2003). Consequently, both PMP and RBV do not explain why some firms with valuable, rare, inimitable/non-substitutable resources, or system of activities that have been profitable before, can fail to make money in the face of some changes—especially radical technological innovations—while others succeed in making money. The dynamic capabilities view argues that some capabilities can be fungible enough to allow their owners to take on change and still win (Helfat, 1997; Helfat & Winter, 2011; Teece, Pisano & Schuen, 1997; Teece, 2007; Døving & Gooderham, 2008; Rothaermel & Hess, 2007; Zott, 2003). Such capabilities are described as dynamic and according to Teece, Pisano and Schuen, these are "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (1997: 516). More recently, Helfat and Winter (2011) have challenged the "rapidly changing environments" part of the definition, arguing that dynamic capabilities are not limited to fast-changing environments—they are just as critical in slow-changing environments. Eisenhardt and Martin also define dynamic capabilities as "The firm's processes that use resources—specifically the processes to integrate, reconfigure, gain and release resources—to match and even create market change. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die" (2000:1107).

Adaptability. Thus, the adaptability variable is derived from the dynamic capabilities view (Teece, Pisano & Schuen, 1997; Eisenhardt & Martin, 2000; Teece, 2007). The rationale behind the variable is simple. In the face of some innovations or

changes, some business models are rendered obsolete while others maintain their usefulness (Henderson & Clark, 1990; Teece, Pisano & Schuen, 1997; Tushman and Anderson, 1986). In yet other cases, business models are not only rendered obsolete, they can also become handicaps. Kodak's razor-and-blade revenue model is a classic example (Tripsas, 2009; Tripsas & Gavetti, 2000). The model worked very well during the chemical/film photography era but in the face of digital photography, it handicapped Kodak and that may have led to Kodak's bankruptcy. Thus, one can describe business models as having some level of dynamism or adaptability to change. Consequently, the question for this variable is: *Is the business model—or core parts of it—cost-effectively reconfigurable or re-deployable to offer benefits that customers perceive as valuable to them?* If the answer is YES, the firm may want to reinforce what it has been doing. If the answer is NO, the firm may want to find out why. It is also important to find out if the business model may have become a handicap.

Perfect competition assumptions of RBV

For the last variable, we look at other assumptions made in RBV and PMP theorizing: perfect competition ideal. In their seminal RBV pieces where the value, rarity, and imitability variables were derived, Barney (1991) and Peteraf (1993) assumed perfect competition and therefore setting prices is of no concern since firms are price takers. In practice, firms are often not price takers, and pricing is a critical part of capturing value and of a firm's business model (Afuah, 2004; Lepak et al, 2007). (Recall that value captured is proportional to price less cost.) Setting prices too low without a strategic motive leaves money on the table while setting prices too high is likely to unnecessarily drive customers away.

Just as important, in the perfect competition model, it is assumed that firms are acting in a cost-minimizing manner (Williamson, 2002). In practice, especially in a business model context, many firms are not cost-minimizers. Thus, in addition to pricing well, a firm also has to keep an eye on costs, even when the firm is pursuing a differentiation strategy. In particular, a firm has to pay attention to agency and transaction costs (Williamson, 2002).

Effectively, since most business models do not operate in the ideals of perfect competition, appraising the profitability potential of a business model necessarily includes a variable to pick up the effect of pricing and cost on profitability.

Customer homogeneity assumption of RBV and PMP

Both RBV and PMP assume that customers are homogeneous. Thus, in PMP, once a firm offers something unique—for example, a differentiated product—customers will gravitate towards the firm, not its competitors, and the firm will make money (Porter, 1985, 1996). Because of customer homogeneity, there should be enough customers for profits to follow. However, if there is customer heterogeneity, then there is no guarantee that offering a differentiated product will attract enough of these customers to make the firm profitable (Adner & Zemsky, 2006; Priem, 2007). That is, in a world in which customers are heterogeneous, the number of customers counts when assessing the profitability potential of a business model.

Accounting for the effect of pricing, cost structure, and number of customers

Thus, to account for the effect of price, cost structure, and number of customers, we include another variable in the assessment framework. For lack of a better name for the variable, we will call it *money*.

Money. The idea here is that if a firm offers customers benefits that they value, there are few or no competitors and the firm's business model is difficult to imitate or substitute, the firm may still not be able to make money if it does not set its prices right, does not have enough customers, or its costs are too high. Setting the price too low without a sound strategic motive leaves money on the table, and setting it too high risks driving customers away. Simple arithmetic dictates that a firm makes more money when it has many customers than when it has fewer, all else being equal.

In general, the question when analyzing the money variable is: *Does the firm make or stand to make money from offering the benefits to customers?*

The VARIM framework

Assembling these five variables, we have the value, adaptability, rareness, inimitability, and money (VARIM) framework. A summary of the variables, their theoretical sources, and primary question to be asked during an analysis are given in Table 1.

(Insert Table 1 about here.)

For easy reference, the questions are also displayed below:

1. **Value**: Does the business model offer benefits that customers perceive as valuable to them?

2. **Adaptability**: Is the business model—or core parts of it—cost-effectively reconfigurable or re-deployable to offer benefits that customers perceive as valuable to them?
3. **Rareness**: Is the firm the only one that offers the customer benefits? If not, is the firm's level of the benefits higher than that of competitors?
4. **Inimitability**: Are the benefits difficult for other firms to imitate, substitute, or leapfrog?
5. **Money**: Does the firm make, or stand to make, money from offering the benefits to customers?

CASE EXAMPLE: ASSESSING THE PROFITABILITY POTENTIAL OF QUIRKY'S CROWDSOURCING BUSINESS MODEL INNOVATION

To clarify the framework, we apply it to Quirky's crowdsourcing business model innovation. Note that this exercise is not meant to be a case study with the associated case methods rigor, but rather a tool to illustrate how the framework can be used.

Quirky's crowdsourcing business model innovation

Launched in 2009, Quirky used crowdsourcing to source its products. The company received new-product ideas from its online community of inventors and would-be inventors (Colao, 2013; McDermott, 2013; Quirky, 2013). The same community of inventors—with about 400,000 members in early 2013—evaluated the product ideas and selected the most promising. The ideas that passed the community's vetting test—the first-stage of the tournament-based crowdsourcing model—were then carefully evaluated by Quirky's internal employees. Research, design, presale, and branding were undertaken

by the community *and* Quirky. Engineering and finalization, were undertaken by Quirky. Quirky manufactured the products, usually by outsourcing to contractors outside the community. The products were sold through the community, directly to anyone, and through retailers. In 2013, retailers included Target and Amazon.com.

In 2013, Quirky collected a fee of $10 for every idea submitted, and owned 70% of the inventions that passed through its platform to the market. The remaining 30% equity was split between the inventor and the community, depending on how much value they added in the invention-to-product process.

One of Quirky's success stories as of 2013 was the Pivot Power—a charging strip that was flexible enough to let a person charge many gadgets at the same time, even when there was little space to work with. The idea for the product was submitted by Jake Zien in April of 2010, and the final product was introduced to the market in May 2011. By May 2013, over 600,000 units had been sold, and Jake Zien had received over $292,000 in royalties from Quirky.

Applying the VARIM framework

We now apply the VARIM framework to Quirky's business model. Since business models evolve, our focus in the analysis is on the business model as of 2013.

Value. The primary question in the *value* component of the VARIM framework is, "Does the business model offer benefits that customers perceive as valuable to them?" YES. By using crowdsourcing for product ideas and idea vetting instead of trying to develop products by itself or depending on a designated contractor, the firm was taking advantage of one of the best things about crowdsourcing: Getting the best ideas from the

community at very little cost since Quirty did not have to pay for the bad ideas that the community rejected in the initial vetting (Poetz & Schreier, 2012; Afuah & Tucci, 2012; Terwiesch & Xu, 2008; Tierwisch & Ulrich, 2009). In fact, everyone who submitted an idea had to pay a fee.

Potential inventors also had a chance to get a community with the right incentives to listen to them, and potentially make their dreams come true. And because members of the community were also potential users, crowdsourcing ideation and vetting to such a community had two advantages. First, the literature on "users as innovators" suggested that these users were more likely to innovate to meet their needs than producers (Bogers et al, 2010; von Hippel, 2005). Thus, going to them for new product ideas was more likely to produce products that better met customer needs. More importantly, crowdsourcing the process of picking new product ideas to users was likely to generate ideas that scored high on novelty and customer benefit (Poetz & Schreier, 2012). Second, because many potential users vet the product and are involved in the other stages of product development and commercialization, some of the market uncertainty that usually accompanied new products was removed. Effectively, crowdsourcing made Quirky's products more valuable to customers and contributors.

Adaptability. The primary question in this component is, "Is the business model—or core parts of it—cost-effectively reconfigurable or re-deployable to offer benefits that customers perceive as valuable to them?" In 2013, Quirky's business model was not limited to sourcing products for one market or industry. Rather, the model could be used to crowdsource many new product ideas for many markets. However, since Quirky also had to perform some product development/commercialization tasks

internally, it might be limited to less complex products. For example, Quirky was not likely to take on building airplanes soon. Its brand could also be built to give the right signals in many markets. Thus, the answer to the question is YES. However, it remained to be seen whether the business model could also be redeployed or reconfigured to continue value creation and capture in the face of changes such as radical technological innovations.

Rareness. The primary question here is, "Is Quirky the only one that offers the customer benefits? If not, is the firm's level of the benefits higher than that of competitors?" The answer is YES. Quirky was the only one in its new market space in 2013. It was the only one in the blue ocean (Kim & Maubourgne, 2005). Other crowdsourcing firms such as InnoCentive and Threadless were in different market spaces. Therefore Quirky could collect economic rents. Quirky could increase the duration of the profits by building first-mover advantages (Afuah, 2009; Lieberman & Montgomery, 1988, 1998).

Inimitability. The driving question here is, "Are the benefits that Quirky offers its customers difficult for other firms to imitate, substitute, or leapfrog?" At Quirky's inception, it was easy to imitate or substitute the benefits that Quirky offered customers. Its products could be reverse engineered and reproduced easily. Product ideas submitted to Quirky could be submitted elsewhere for evaluation and subsequent production. However, as time went by, its multi-sided network of inventors (potential and actual) and distributors grew, and imitation or substitution became more difficult. The firm was also learning more about this revolutionary business model, building its brand and

relationships with co-opetitors, adding to its system of activities, and acquiring other complementary assets. Strong brands, access to distribution channels, and other complementary assets can be difficult to replicate. The benefits of a large established network community can be even more difficult to replicate.

To continue to capture value, Quirky needed to continue to build valuable, difficult-to-imitate-or-substitute complementary assets. Since the range of products and the markets that it could address was very large, Quirky could pursue a run strategy in which it introduced new products and before competitors imitated them, it had moved on to introduce different new products or taken existing products to different markets (Afuah, 2009).

Money. The question here is, "Does Quirky make, or stand to make, money from offering the benefits to customers?" YES. In 2013, Quirky's crowdsourcing activities enabled it to operate in uncontested market spaces, even if only temporarily. Because Quirky did not limit itself to one industry, the number of potential market segments that it could address was high. Thus Quirky could afford to set prices close to consumer's reservation prices, until the products were imitated or substituted. In fact, it charged potential inventors a $10 fee to look at their ideas. This was a relatively small amount of money—about the cost of lunch in many cities—but could go towards defraying some of the costs of evaluating the ideas. By charging for idea submission, Quirky was also reducing the number of "useless" ideas that could be submitted. However, such filtering of ideas has to be done very carefully because it might lock out some great ideas, thereby not taking advantage of the power of crowdsourcing (Afuah & Tucci, 2012, 2013).

Most of Quirky's advantage came from being first. It had to build its brand, increase the size of its network community, gain access to distribution channels, continue to expand and work out any kinks in its crowdsourcing infrastructure, and so on—that is, build first-mover advantages (Lieberman & Montgomery, 1998). How much money Quirky could make in the future depended very much on building these first-mover advantages.

SUMMARY, DISCUSSION AND CONCLUSION

Managers and entrepreneurs often need to assess the profitability potential of their business model innovations—predict future profitability of their business model innovations. Because the accuracy of such predictions depends on the uncertainty associated with the business model, and innovation can be full of uncertainty, such an assessment can be very difficult. The earlier in the life of the business model innovation, the higher the uncertainty is likely to be, and therefore the more difficult it is to make predictions about the model's profitability. Luckily, two factors enable us to assess the profitability potential of a business model. First, value creation and capture in a business model is rooted in the capabilities that underpin the model—in resources and the activities that use the resources to create and capture value. Second, the resource-based view (RBV) of the firm, the product-market position (PMP) view of the firm, and the dynamics capabilities view (DCV) predict or explain the relationship between the characteristics of capabilities and profitability.

Thus, these theories form the cornerstones of a framework for assessing the profitability potential of a business model innovation. In the framework, five variables—derived from the theories—determine the profitability potential of a business model

innovation: Value, Adaptability, Rareness, Inimitability, and Money (VARIM). The primary difference between this framework (the VARIM) and previous frameworks that draw on these theories is that the VARIM compensates for the effects of some of the underlying assumptions of RBV, PMP and DCV. In particular, the VARIM compensates for the fact that in real life where firms generate and execute business models, firms are not price takers, customers are not homogeneous, and firms do not cost minimize.

Thus, the primary differences between the value, rarity, imitability, and organization (VRIO) model by Barney and Hesterly (2005) and the VARIM is in the A (adaptability) and M (money) variables, and the way the questions are framed during an analysis. First, the A variable speaks to the fact that RBV and PMP are static models and many business model innovations are in dynamic environments. Second, the M variable speaks to the fact that RBV—on which the VRIO is based—assumes that firms are price takers, customers are homogeneous, and firms and their co-opetitors are cost minimizers (Barney, 1991). Third, the questions in the VARIM framework are asked with these first two differences in mind. Thus, although three variables in both frameworks—value, rareness, and inimitability—have the same roots in Barney's seminal 1991 piece, the questions that the variables ask in the two models are different. In the VRIO, the *value* question is, "Is the firm able to exploit an opportunity or neutralize an external threat with the resource/capability?" while in the VARIM, the question keeps customer heterogeneity in mind: "Does the business model offer benefits that customers perceive as valuable to them?" In the VRIO, the *imitability* question is, "Is it difficult to imitate, and will there be significant cost disadvantage to a firm trying to obtain, develop, or

duplicate the resource/capability?" while for the VARIM, the question is, "Are the benefits difficult for other firms to imitate, substitute, or leapfrog?"

If we are to understand why and when some business model innovations are more profitable than others, we need to understand how to assess their profitability potentials. This paper presented the theoretical rationale for a framework for assessing the profitably potential of a business model innovation. Since "there is nothing so practical as a good theory" (Lewin, 1951: 169), I hope that providing this theoretical rationale for the VARIM will not only lead to better frameworks for assessing the profitability of business model innovations, but will also lead to better use of such frameworks by managers and scholars.

Adner, R., P. Zemsky. 2006. A demand-based perspective on sustainable competitive advantage. *Strategic Management J.* **27**(3) 215–239.
Afuah A. N. 2002. Mapping technological capabilities into product markets and competitive advantage: The case of cholesterol drugs. *Strategic Management Journal* **23**(2): 171–179
Afuah, A. 2004. *Business models: A strategic management approach.* New York: Irwin/McGraw-Hill
Afuah, A. N. 2009. *Strategic Innovation: New Game Strategies for Competitive Advantage*. Routledge, New York, NY.
Afuah, A., & Tucci, C. L. 2012. Crowdsourcing as a solution to distant search. *Academy of Management Review*, 37(3): 355–375.
Afuah, A., & Tucci, C. L. 2013. Value capture and crowdsourcing. *Academy of Management Review*, 38(3): 457–460.
Amit, R., & Schoemaker, P. J. H. 1993. Strategic assets and organizational rent. *Strategic Management Journa*l, 14: 33-46.
Amit, R., & Zott, C. 2001. Value creation in e-business. Strategic Management Journal, 22: 493-520.
Baden-Fuller, C., & Morgan, M. S. 2010. Business models as models. *Long Range Planning*, 43: 156-171.
Barney, J. B. 1991. Firm resources and sustained competitive advantage. *Journal of Management*, 17: 99-120.
Barney, Jay B and Hesterly, William S. 2005. Strategic Management and Competitive Advantage: Concepts. 2005 Pearson Education, Inc., Upper Saddle River, New Jersey, 07458.
Bogers, M., A. Afuah and B. Bastian. 2010. Users as innovators: A review, critique, and future research directions. *Journal of Management* 36(4): 857-875.
Casadesus-Masanell, R., & Ricart, J. E. 2010. From strategy to business models and to tactics. *Long Range Planning*, 43: 195-215.
Chesbrough, H. 2006. Open innovation: A new paradigm for understanding industrial innovation, in Henry Chesbrough, Wim Vanhaverbeke, and Joel West, eds., *Open Innovation: Researching a New Paradigm*. Oxford: Oxford University Press, pp. 1–12.
Chesbrough, H. W. 2007. Business model innovation: It's not just about technology anymore. *Strategy and Leadership*, 35(6): 12-17.
Chesbrough, H. W., & Rosenbloom, R. S. 2002. The role of the business model in capturing value from innovation: Evidence from Xerox Corporation's technology spinoff companies. *Industrial and Corporate Change*, 11: 533-534.
Colao, J. J. 2013. Can A Crowdsourcing invention company become 'the best retailer in the world?' *Forbes*, May 9, 2013. http://www.forbes.com/sites/jjcolao/2013/05/09/can-a-crowdsourcing-invention-company-become-the-best-retailer-in-the-world/ Accessed July 30, 2013.
Døving, E., & Gooderham, P. N. 2008. Dynamic capabilities as antecedents of the scope of related diversification: The case of small firm accountancy practices. *Strategic Management Journal*, 28: 841-857

Eisenhardt, K. M., & Martin, J. A. 2000. Dynamic capabilities: What are they? *Strategic Management Journal*, 22: 1105-1121.
Gambardella, A., & McGahan, A. M. 2010. Business model innovation: General purpose technologies and their implications for industry structure. *Long Range Planning*, 43: 262-271.
Hahn, E. D., & Doh, J. P. 2006. Using Bayesian methods in strategy research: An extension of Hansen, et al. *Strategic Management Journal*, 27: 783-798.
Helfat, C. E. 1997. Know-how and asset complementarity and dynamic capability accumulation: the case of R&D. *Strategic Management Journal.* **18**(5) 339–360.
Helfat, C.E., & Winter, S.G. (2011). Untangling dynamic and operational capabilities: Strategy for the (n)ever-changing world. *Strategic Management Journal*, 32(11): 1243–1250.
Henderson RM, Clark KB. 1990. Architectural innovation: the reconfiguration of existing product technologies and the failure of established firms. *Administrative Science Quarterly* 35(1): 9 30.
Johnson, M. W., Christensen, C. C., & Kagermann, H. 2008. Reinventing your business model. *Harvard Business Review*, 86(12): 50-59.
Kim, W. C., R. Mauborgne. 2005. *Blue Ocean Strategy*. New York, Harvard Business School Press
Lepak, D. P., K. G. Smith, M. S. Taylor. 2007. Value creation and value capture: A multilevel perspective, *Academy of Management Review*, **32**(1) 180–194
Lewin, K. 1951. *Field Theory in Social Science: Selected Theoretical Papers*. New York, NY: Harper & Row.
Lieberman MB, Montgomery DB. 1998. First-mover (dis)advantages: retrospective and link with the resource-based view. *Strategic Management Journal* 19(12): 1111–1125.
Mahoney JT, Pandain Jr. 1992. The resource-based view within the conversation of strategic management. *Strategic Management Journal* 13(5): 363–380
McDermott, J. 2013. Quirky wants to topple CPGs by turning ordinary people into millionaire inventors. Advertising Age, March 25, 2013. http://adage.com/article/digital/quirky-topple-cpgs-making-inventors-investors/240486/ Accessed July 30, 2013.
McGahan A. M., and M. E. Porter 1997. How much does industry matter? Really? Strategic Management Journal 18 (Summer special issue) pp. 15-30
Morris, M., Schindehutte, M., & Allen, J. 2005. The entrepreneur's business model: Toward a unified perspective. *Journal of Business Research*, 58: 726-35.
Newbert, S. L. 2007. Empirical research on the resource-based view of the firm: An assessment and suggestions for future research. *Strategic Management Journal*, 28: 121-146.
Peteraf, M. A. 1993. The cornerstones of competitive advantage: a resource-based view. *Strategic Management J.* **14**(3) 179–191.
Peteraf, M. A., J. B. Barney. 2003. Unraveling the resource-based tangle. *Managerial and Decision Economic*s, **24**(4) 309–323.
Poetz, M. K., & Schreier, M. 2012. The Value of Crowdsourcing: Can Users Really Compete with Professionals in Generating New Product Ideas? Journal of Product Innovation Management, 29(2):245–256

Porter, M. E. 1980. *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. New York: Free Press.
Porter, M. E. 1985. Competitive advantage: Creating and sustaining superior performance. New York: Free Press.
Porter, M. E. 1996. What is Strategy? *Harvard Bus. Rev.* **74**(6) 61–78.
Priem RL. 2007. A consumer perspective on value creation. *Academy of Management Review*, 32: 219-235.
Quirky. 2013. How to submit idea. http://www.quirky.com/invent/submit. Accessed July 30, 2013.
Rivkin, J. W. 2000. Imitation of complex strategies. *Management Sci.* **46**(6) 824–844.
Rothaermel, F. T., & Hess, A. M. 2007. Building dynamic capabilities: Innovation driven by individual-, firm-, and network-level effects. *Organization Science*, 18: 898-921.
Teece, D. J. 2007. Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28: 1319-1350.
Teece, D. J., Pisano, G., & Shuen, A. 1997. Dynamic capabilities and strategic management. *Strategic Management Journal*, 18: 509-533.
Terwiesch, C. and Xu Y. 2008. Innovation contests, open innovation, and multiagent problem solving, *Management Science*, 54(9): 1529-1543.
Terwiesch, C.& Ulrich, K. 2009. *Innovation Tournaments*. Boston: Harvard Business School Press, 2009
Timmers, P. 1998. Business models for electronic markets. *Electronic Markets*, 8(2): 3-8.
Tripsas, M. (2009). Technology, identity, and inertia through the lens of "The Digital Photography Company". *Organization Science*, 20(2), 441–460
Tripsas, M., G. Gavetti. 2000. Capabilities, cognition, and inertia: Evidence from digital imaging. *Strategic Management J.* **21**(10–11) 1147–1161.
Tushman, M. L., P. Anderson. 1986. Technological discontinuities and organizational environments. *Admin. Sci. Quart.* **31**(3) 439–465.
von Hippel, Eric (2005), Democratizing Innovation. Cambridge, MA: MIT Press.
Williamson, O. E. 2002. The theory of the firm as governance structure: From choice to contract. *Journal of Economic Perspectives*, 16: 171-195.
Zahra, S. A., Sapienza, H. J., & Davidsson, P. 2006. Entrepreneurship and dynamic capabilities: A review, model and research agenda. *Journal of Management Studies*, 43: 917-955.
Zott, C. 2003. Dynamic capabilities and the emergence of intraindustry differential firm performance: Insights from a simulation study. *Strategic Management Journal*, 24: 97-125.
Zott, C., & Amit, R. 2010. Designing your future business model: An activity system perspective. *Long Range Planning*, 43: 216-226.
Zott, C., Amit, R., & Massa, L. 2011. The business model: Recent developments and future research. *Journal of Management*, 37(4): 1019-1042

Table 1: Sources of the VARIM framework's variables

Variable	*Question*	*Theoretical Source*	*Contribution to*	*Sample references/Comments*
Value	Does the business model offer benefits that customers perceive as valuable to them?	RBV, PMP	Value creation and capture	Barney (1991); Peteraf & Barney (2002); Barney & Hesterley (2005) Porter (1980, 1985, 1996)
Adaptability	Is the business model—or core parts of it—cost-effectively reconfigurable or re-deployable to offer benefits that customers perceive as valuable to them?	DCV	Value creation and capture	Teece, Pisano and Schuen (1997); Helfat (1997); Eisenhardt & Martin (2000); Helfat & Winter, 2011; Teece (2007). Døving & Gooderham, 2008; Rothaermel & Hess, 2007; Zott, 2003.
Rareness	Is the firm the only one that offers the customer benefits? If not, is the firm's level of the benefits higher than that of competitors?	RBV	Value capture	Barney (1991); Peteraf & Barney (2002); Barney & Hesterley (2005)
Inimitability	Are the benefits difficult for other firms to imitate, substitute, or leapfrog?	PMP, RBV	Value capture	Porter (1980, 1985, 1996); Rivkin (2000). Barney (1991); Peteraf & Barney (2002); Barney & Hesterley (2005
Money	Does the firm make, or stand to make, money from offering the benefits to customers?	"Correct" for assumptions in RBV, RBV, PMP	Value capture	Customers are <u>not</u> homogeneous, firms are <u>not</u> price takers, firms do <u>not</u> minimize costs.