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Enhancing the Understanding of Processes and Outcomes of Innovation: The Contribution of Effectuation to S-D Logic

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S-D logic understands innovation as a novel and useful integration of dynamic resources and highlights the role of institutionalization as an essential driver of innovation. The purpose of this chapter is to examine in more detail the nature of innovation processes and outcomes in the S-D logic framework. The focus is on the contribution that the approach of effectuation can provide to S-D logic in the analysis of innovation. While the S-D logic suggests two particular outcomes of innovation processes—value propositions and transformed service ecosystems—the former alone is insufficient to innovation. For innovation to be sustainable, new market practices must become institutionalized and value propositions agreed upon by the engaged actors to (re)create the market and transform the service ecosystem. The chapter shows how the views of effectuation can help elaborate the institutionalization processes in innovation by emphasizing experimentation in value proposition development and negotiations in actor engagement.

Keywords: S-D logic, innovation, effectuation, value proposition, resource integration, service ecosystem, transformation, multi-actor, experimentation, negotiation

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1. Introduction

Since the original call by Vargo and Lusch (2004), S-D logic has aimed at developing a general theory of the market. In S-D logic, the market is conceptualized as "routinized service-for-service exchange of economic actors mediated by institutions" (Wieland, Hartmann, & Vargo, 2017, p. 17). Recently, Vargo and Lusch (2017, p. 46) suggested S-D logic should move "toward further development of a general theory of the market and, even more broadly, to a general theory of value cocreation". They argued that two aligned theoretical orientations, namely, the ecosystems and institutional theories, have now unfolded, and, based on them, S-D logic can capture the emerging and innovative structures and processes of markets.

S-D logic understands innovation as a novel and useful integration of dynamic resources. It opposes the preoccupation of marketing with tangible resources, embedded value and transactions. A similar view can be found in the approach of effectuation, which sees markets and innovation processes as "makeable" through human action (Read, Sarasvathy, Dew, & Wiltbank, 2016). Effectuation is concentrated on the innovation process, in particular, and can support the S-D logic views in this area. It questions the focus placed on the logic of prediction (causation) that simply assumes the existence of key artifacts, such as firms and markets. Instead of following this broadly accepted paradigm, effectuation moves the focus to the issue of how firms and markets are created (Sarasvathy, 2001). This helps to understand innovation processes and outcomes and thereby also the emergence and reformation of institutions and the constitution of markets and innovative value creation. As a result, effectuation can deepen S-D logic in the understanding of the institutionalization process.

S-D logic and effectuation also include similar views on resources and skills needed in value co-creation. Vargo and Lusch (2006) point out that the entrepreneurial spirit and its skills are among the most important operant resources of a company. Consequently, S-D logic inverts the focus of value creation from predictive to effectual processes (Vargo & Lusch, 2014). Effectual scholars argue that rather than striving to better manage predetermined markets, the focus should be on the co-creation of demand and markets "through innovative deployments of operant resources in ongoing relationships between marketing stakeholders" (Read, Song, & Smit, 2009). Both S-D scholars and effectuation scholars have also explicitly suggested that there is a potential for effectuation to inform S-D logic and thus contribute to extending and expanding the current understanding of innovation (Read and Sarasvathy, 2012; Whalen

and Akaka, 2016). An essential element of this expansion is that innovation processes and their outcomes are not analyzed as embedded in the microeconomics of profit maximization or the macroeconomics of physical exchange.

The purpose of this chapter is to examine in more detail the nature of innovation processes and outcomes in the S-D logic framework. We focus on how effectuation can supplement S-D logic, particularly in the analysis of resource integration in innovation processes. Thus, we highlight those concepts of the effectual theory that can inform the process of innovation within the S-D logic framework. Also the outcomes of these processes, in the form of novel value propositions and transformed service ecosystems (Skålén et al., 2015), are examined. One important aspect in innovation processes is the role of experimentation. It is needed for the creation of innovative value propositions, which can be understood as an invitation to other actors to engage in value co-creation in ways that are both novel and useful for these actors. Moreover, we discuss the role of multi-actor negotiations in the institutionalization process of markets.

This chapter proceeds as follows. First, we review the extant literature to describe how S-D logic understands innovation processes and their outcomes. Second, we briefly introduce the effectual view of innovation. Third, we discuss how effectuation can supplement S-D logic in the analysis of innovation, regarding the innovation process and its outcomes in particular.

2. The S-D Logic View on Innovation

In the traditional, goods-dominant (G-D) innovation literature, the supplier firm holds the role of an active developer of products and services while the customer takes on the role of a passive adopter that buys the new offering and makes it profitable for the supplier (Sundbo, 1997). This view, which resonates with the early, unidirectional Schumpeterian innovation model of "the lone entrepreneur bringing innovations to markets" (Laursen & Salter, 2006, p. 132), is rooted in neoclassical economics wherein production and consumption are separate entities (Helkkula, Kowalkowski, & Tronvoll, 2017).

The G-D logic hegemony in innovation literature has lately been replaced by an emphasis on a service-ecosystem view on innovation (see e.g. Lusch & Nambisan, 2015). This view is zooming in on multiple actors' engagement in integrating resources in novel and useful ways and on the conceptualization of innovation as institutionalized change in service ecosystems (Edvardsson & Tronvoll, 2013; Koskela-Huotari et. al., 2016; Vargo & Lusch, 2016). It includes the role of institutions and social systems (Edvardsson, Tronvoll, & Gruber, 2011)—

humanly devised rules, norms, and meanings that guide and constrain human action —and certain institutional arrangements—interdependent sets of institutions—that both enable and hinder any novel and useful approaches to resource integration (Vargo & Lusch, 2016).

S-D logic enables a multi-actor view of innovation; all actors are resource integrators in terms of their efforts to co-create value for themselves and others (Vargo & Lusch, 2011). These efforts connect actors to a service ecosystem, which is a "relatively self-contained, self-adjusting system of resource-integrating actors connected by shared institutional arrangements and mutual value creation through service exchange" (Vargo & Lusch, 2016, pp. 10–11). A service ecosystem both enables and inhibits collaboration and thereby value co-creation processes. Innovation is seen as a transformation process that, at least to some extent, results in an institutionalized reconfiguration of the service ecosystem (Vargo, Wieland, & Akaka, 2015; Edvardsson & Tronvoll, 2013). In contrast to more traditional (G-D) views of innovation, the service ecosystem approach provides a more dynamic view on its actors' interactions. This helps reconcile the various elements of innovation and extends the scope of innovation from a focus on technology and firm-centric R&D activities to an emphasis on multiple actors and market practices (Helkkula, Kowalkowski, & Tronvoll, 2017; Vargo et al., 2015). Instead of a new gadget or technology, innovation is considered to be the result of a collaborative recombination or combinatorial evolution of practices that provides novel solutions to problems (Skålén et al., 2015; Vargo et al., 2015). Thus, innovation can be defined as an institutionalized change in service ecosystems that is both novel and useful for the actors that are engaged (Edvardsson & Tronvoll, 2013).

Innovation is both resulting in, and being driven by, ongoing market practices (Diaz Ruiz & Kowalkowski, 2014; Kjellberg & Helgesson, 2007), which are linked with existing technology, value networks, business models, and regulatory environments (Heikkilä, Saarni, Kaartemo, & Koponen, 2015). This view emphasizes that the viability of an innovation ought to be studied from the perspective of its institutionalization (incl. deinstitutionalization and re-institutionalization). Institutions include shared forms of social interaction and value co-creation (Siltaloppi, Koskela-Huotari, & Vargo, 2016); they have impact on how to mobilize and direct actors within service ecosystems and how to set new rules of resource integration and at least temporarily stabilize them in the market. Institutions provide coordinating mechanisms to inhibit or enable resource integration (Vargo & Lusch, 2016). To explain these ideas further, we first briefly review what is meant by institutionalization process in

innovation in the context of S-D logic and then take a closer look at what is meant by value propositions and transformed service (eco)systems as outcomes of this process.

2.1 Institutionalization as a core process in innovation

Vargo et al. (2015) demonstrate the key role of institutions in innovation and broaden the scope of innovation beyond firm-centered offerings and collaboration networks to zoom in on the resource integration practices that drive innovation as "the combinatorial evolution of new, useful knowledge" (p. 69). They argue that the dynamic relationship between interaction and institutions points toward a recombination of institutions and toward institutionalization as a central process of innovation for both technology and markets. Institutional change (Battilana, Leca, & Boxenbaum, 2009) and institutional work (Lawrence, Suddaby, & Leca, 2011), which focuses on the creation, maintenance and disruption of institutions, are the keys to understanding innovation. The focus on institutional work, in particular, expands the view on innovation from only creating new practices to both the purposeful maintenance and the disruption of existing institutions (Vargo et al., 2015).

Similarly to Vargo et al. (2015), Koskela-Huotari et al. (2016) draw on the concept of institutional work when elaborating the S-D logic view on innovation. They examine how innovation in service ecosystems unfolds through the efforts of multiple actors to break, create, and maintain the institutionalized rules of resource integration on multiple levels of aggregation; micro, meso, and macro (see also Lawrence & Suddaby, 2006). To make a change happen, certain existing rules need to be challenged and then broken. Koskela-Huotari et al. (2016) further highlight that while the efforts of breaking and making institutionalized rules are required for changes to occur, institutional maintenance is also important. This is because any actions to change existing institutional arrangements have to be guided by the already existing institutional structure of the ecosystem. Institutional maintenance makes new rules of resource integration more recognizable and also makes the changes less abrupt and confusing for the actors.

Innovation as a process of reconfiguring the institutional structure in service ecosystems is not straightforward or does not occur without conflicts or tensions. As institutional work includes multiple actors and various institutional arrangements, the institutionalization process takes some time before a common template becomes accepted and then shared. Siltaloppi et al. (2016) extend the S-D logic view on innovation as an institutional change by conceptualizing the emergence of novel solutions in service ecosystems. By doing so, they

increase our understanding of innovation as "effectual, collaborative, recombinative, and path-dependent processes" (p. 339). They pay attention to how market actors (individuals and organizations) create new solutions that change the institutional arrangements guiding and constraining those actors. Siltaloppi et al. (2016) highlight that it is institutional complexity—the multiplicity of institutional arrangements confronting actors with conflicting prescriptions for action—that drives the emergence of novelty. First, institutional complexity elevates the actors' creative problem solving, as they encounter incompatible institutional arrangements. Second, institutional complexity allows for the use of multiple institutional "toolkits" that convey cultural norms and meanings, as well as material practices. Market actors can use these toolkits to reconcile, transform, and integrate elements of the institutional arrangements to reconstruct and change value co-creation practices and thus advance changes in the institutional arrangements of service ecosystems (Siltaloppi et al., 2016).

2.2 Novel Value Propositions and Service Ecosystems as Outcomes of Innovation

According to S-D logic, there are two outcomes of innovation processes: novel value propositions and aligned and supportive, transformed service (eco)systems which may be expressed in terms of a changed business model (Skålén et al., 2015; Wieland, Hartmann & Vargo, 2017). Value propositions are "reciprocal resource-integration promises and value alignment mechanisms operating to and from actors seeking an equitable exchange" (Kowalkowski, Kindström, & Carlborg, 2016, p. 282). Thus, value propositions precede service exchange. Rooted in the microeconomics of profit maximization, the value proposition concept has traditionally been regarded as supplier-crafted proposals for customers (e.g., understanding, creating, and delivering value; Anderson et al., 2008). S-D logic, however, acknowledges that value propositions are co-created dynamic mechanisms for adjusting how resources are shared within a service ecosystem (Frow et al., 2014) and "invitations from actors to one another to engage in service" (Chandler & Lusch, 2015, p. 8). Applying this perspective, any actor can initiate a value proposition that may change over time as it is being crafted (Ballantyne et al., 2011; Kowalkowski, 2011). Acting as value balancing and alignment mechanisms, value propositions influence those with whom actors choose to engage and also shape the nature of market interactions and new resource integration within various service ecosystems (Frow et al., 2014).

Ben Letaifa et al. (2016) and Koskela-Huotari et al. (2016) examine transformed service ecosystems as the outcome of innovation. In this view, innovation extends beyond developing new outputs that are exchanged to being wider activities that are aimed at changing the value

of co-creation practices in the service ecosystem (Vargo et al., 2015). A transformed service ecosystem can be regarded as an indicator of the occurrence of an innovation (Edvardsson & Tronvoll, 2013), which influences future resource integration practices. Figure 31.1 below presents a simplified model that combines the two views on the outcomes of innovation—novel value propositions and transformed service ecosystems—and illustrates their linkages to market offerings and resource integration practices.

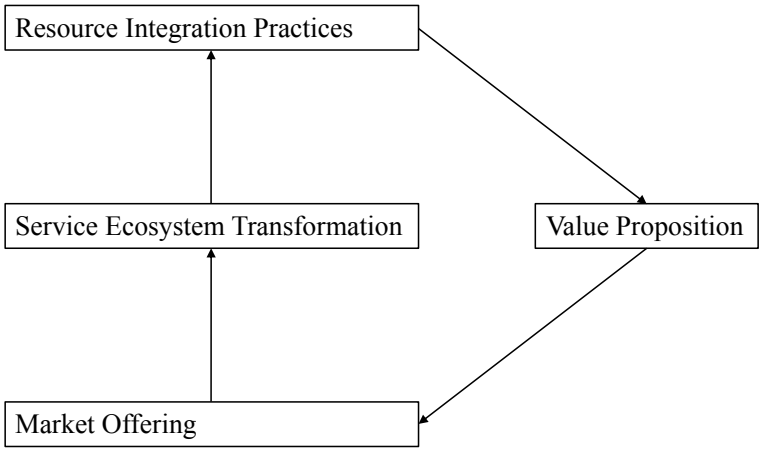

Figure 31.1 The outcomes of innovation processes

While novel value propositions are outcomes of innovation processes, a value proposition alone is not innovation; it has to be accepted by multiple actors in order to make an impact. Drawing on the analogy of invention versus innovation (Brozen, 1951; Ruttan, 1959; Schumpeter, 1934), a value proposition resembles an invention, which in some manner or other is an antecedent of innovation, but alone insufficient to generate it. While an invention can refer to any new concept, process or idea, it must be introduced in the market and make an impact before it can be considered an innovation; an invention in itself has no inherent value (Witell, Snyder, Gustafsson, Fombelle, & Kristensson, 2016). Thus, innovation should be understood as an institutionalized change in service ecosystems that is novel and useful for the engaged actors (Edvardsson & Tronvoll, 2013). For innovation to be sustainable then, the viability of the service ecosystem as a whole should increase.

In the following, we use the Eataly case (Aal et al., 2016) as an illustration to discuss concretely the linkage between innovation processes and their outcomes. The case shows

how Eataly's value proposition has been able to invite and engage other actors, and create a novel and aligned ecosystem that has strengthened the value proposition. The value proposition has also been systematized in a way that has enabled routinizing collaboration between traditionally unrelated actors, and consequently resulted in a scalable market offering that has enabled international growth. Thus, the case exemplifies how resource integration activities and processes influence value propositions, which in turn lead to market offerings and transform service ecosystems.

Case: Eataly

Eataly is a high-end Italian chain of food stores that includes restaurants, food and beverage stations, bakeries, a bookstore and conference facilities. Founded by Oscar Farinetti in 2004, Eataly is grounded in a combination of EAT and ITALY. The Eataly brand is grounded in "Eating Italian," including Italian cultural traditions. "Our typical traditions to experience the table arise from the excellent Mediterranean cuisine, culture and culinary history of our country, the reproducibility and simplicity of the many dishes of poor origins, and the positive influences that Italian cuisine has received from other countries." ("Eataly.net," 2015) Farinetti's vision was to create a modern structure that offers a distinct value proposition; not only would the chain sell high-quality food but it also would offer a unique, rich, and affordable customer experience that emphasizes the meaning and essence of food, thereby developing quality consciousness and disseminating a healthy food culture. Today, in each store, it is indeed possible to buy, eat, and learn about food, in line with its slogan of "Eat-Shop-Learn."

Eataly has become a novel ecosystem that functions as an umbrella brand for a wide range of brands and actors' sharing a common basis in high-quality food and beverage products and services that are inspired by a rich heritage grounded in Italian gastronomy. The first Eataly store opened in 2007 and more than 2.5 million customers visited it in the first year. Eataly has scaled up globally during the last few years, showing how the innovative integration of resources, brands, and traditionally unrelated businesses deliver shared values that are important to all the engaged actors in its ecosystem. Eataly has grown bigger both in Italy and abroad, and at the end of 2016, it had 38 stores in 12 countries.

The S-D logic's view on innovation provides understanding of how resource integration is linked with value propositions, market offerings and service ecosystems (conceptualized in

Fig.1). A system-level, holistic perspective is necessary to understand that value propositions are co-created and markets are (re)formed via dynamic processes of systemic actors. Wieland et al. (2017) point out that resource integration and service exchange lead to dynamic processes in which multiple actors co-create institutions by competing and collaborating until common, but always imperfect, institutional arrangements form. However, there are still black boxes that need to be opened to explain mechanisms of the institutionalization process. Here, the effectual approach comes into the picture: it can provide additional understanding to the S-D logic view on innovation processes and outcomes. In the following, we discuss the concepts of effectuation to analyze the relationship between resource integration, value propositions, market offerings, (re)formation of markets, and transformed service ecosystems. We show how effectuation connects value propositions to other conceptual cornerstones of S-D logic by identifying the dynamics in service ecosystems, and by opening up the phenomenon of resource integration (Pohlmann & Kaartemo, 2017).

3. The Effectual View on Innovation

Effectuation is an approach to management and entrepreneurship that pays attention to the way in which novelties are created. It examines the world "in-the-making" and considers it "makeable" through human action (Read et al., 2016). Markets are created as a result of innovation processes. Understanding the creation of a novelty starts by asking three basic questions on the resources of actors (Dew & Sarasvathy, 2007): 1) who they are (identity); 2) what they know (knowledge); and 3) whom they know (social networks). When these means are available, individuals and organizations alike, begin acting on the things and ideas they can afford to act upon (Sarasvathy, 2001). This process of acting upon consists of interaction and negotiations with potential stakeholders that the actors already know or happen to meet during the process (Dew & Sarasvathy, 2007).

In effectuation, the innovation process as market creation is understood as a multi-actor process in which a network of stakeholders engage by negotiating the design of innovations (Dew & Sarasvathy, 2007; Sarasvathy & Dew, 2005). When under uncertainty, stakeholders do not know what to expect from the process. Instead, they use effectual logic (Sarasvathy, 2001) or non-predictive control (Wiltbank, Dew, Read, & Sarasvathy, 2006) to realize that the future does not need to be predicted as long as you can control it. As actors engage in the process of (re)designing innovations, they will have some control over an uncertain future (Dew & Sarasvathy, 2007).

In an effectual process, stakeholders self-select into the process by making some kind of actual commitment to the venture or innovation and then negotiate what that innovation should become. This process provides a precise mechanism that is used to transform innovation (market or technology) to meet the wishes of all committed stakeholders of the effectual network. Innovations are then constantly renegotiated and redesigned based on the wishes and resources of the stakeholders. Non-stakeholders do not participate in the process, and only stakeholders are listened to. This limitation of noise helps the decision-making of actors with cognitive limits. In other words, it is better to listen to fewer strong signals from committed stakeholders than to a larger number of weaker signals (Dew & Sarasvathy, 2007).

It is important to acknowledge that effectuation refers to market creation as an isotropic process; that is, in decisions and actions with uncertain consequences, it is not always clear *ex ante* which pieces of information are relevant and which are not (Sarasvathy & Dew, 2005). To cope with uncertainty, stakeholders depend on and leverage already existing structures, even if they do not know whether they are appropriate; institutions help set the bounds of uncertainty (Sarasvathy & Dew, 2005). Similarly to S-D logic, effectuation highlights the role of institutions in market creation. Both approaches build on the work of Ménard (1995) and Loasby (2000) in their view of markets as institutions, or as "a specific institutional arrangement consisting of rules and conventions that make possible a large number of voluntary transfers of property rights on a regular basis" (Ménard, 1995, p. 170). As they provide a shared framework for the stakeholders, pre-existing institutional arrangements connect multiple stakeholders and are particularly helpful in reducing cognitive costs when developing new markets (Sarasvathy & Dew, 2005). Thus, instead of creating a pure novelty, entrepreneurs typically take a pre-existing framework, and experiment and transform it to use it for new purposes. Individual stakeholders participate in this institutional work when they engage in negotiations regarding the future market by accepting and rejecting value propositions. As the effectual network grows, the changes become even smaller, and the effectual network tends to become more stable, more predictable and less effectual. In other words, it eventually coalesces into an empirically distinct new market (Sarasvathy & Dew, 2005).

Experimentation is one of the sub-dimensions of effectuation (Chandler, DeTienne, McKelvie, & Mumford, 2011). New opportunities are developed by trial-and-error and will change direction whenever new information is available. Entrepreneurs' experiment with alternatives that include only affordable losses, and are flexible to changing environmental

contingencies. They aim at controlling the uncertain future by networking and getting pre-commitments from other actors. Thus, the effectuation process is "a series of experiments to identify a business model that works" (Chandler et al., 2011, p. 380).

Read and Sarasvathy (2012) emphasize that in a series of experimentations it is impossible to know who the beneficiary of a novelty is and how that actor eventually co-creates value. Whereas this aspect could be considered a limitation, it also opens up new possibilities by blurring boundaries and broadening the scope of variety and new ways of co-creation. Negotiations between various actors are needed when the novelty is introduced. In these negotiations, some interactions become embodied in actual additional stakeholder commitments and shape the initial versions of the artifact and its later transformations into particular market structures. Moreover, there are some interactions that do not become embodied, which suggests that the market or the idea of a market needs to be transformed. It is also possible that other markets (effectual networks) are more willing to compete with the nascent market than to join the effectual network behind its emergence. This requires new experimentations with the development of a value proposition and related negotiations. The effectual theory also acknowledges that there can be non-negotiable exogenous conditions that expose exogenous shocks (both positive and negative), such as changes in the regulatory environment that shape market transformation. The innovation process can thus be perceived as a series of negotiations and contingencies with potential stakeholders of effectual networks and the institutional environment. As a result of these negotiations, the actors gain access to more resources, but at the same time, also become constrained (Dew & Sarasvathy, 2007).

4. Contribution of Effectuation to Understanding Innovation in the S-D Logic Context

Effectuation can supplement S-D logic by explaining "how novelty is co-created" (Read & Sarasvathy, 2012, p.226). In the following, we develop further Read and Sarasvathy's (2012) "initial sketches" by identifying and extending areas of common interest around value propositions (Whalen & Akaka, 2016). We elaborate the view of multi-actor institutional work and the engagement of stakeholders that are both necessary for positive innovation processes and outcomes. In particular, we discuss how experimentations and negotiations can improve our understanding of innovation processes in the S-D logic context.

We start from the argumentation of Whalen and Akaka (2016) who suggest that the opportunity creation perspective of entrepreneurship (e.g., effectuation) views opportunities as socially created by sense-making individuals. Moreover, both the opportunity creation

perspective and S-D logic share the view that such socially created realities are unpredictable. Whalen and Akaka (2016) integrated the emerging views on opportunity creation in entrepreneurship with S-D logic to develop a more precise market conceptualization for exploring uncertainty in dynamic social and economic environments. They argue that opportunities are continually co-created through the development and communication of value propositions, the derivation and determination of value, and the (re)formation of markets. Value proposition here refers to an invitation to other actors to join forces and engage in value co-creation. Actors use the processes of enactment and sensemaking to develop value propositions to influence the (re)formation of markets. They reduce uncertainty by signaling value expectations and possibilities through value propositions.

Summarizing the earlier contributions at the intersection of the views on entrepreneurship and S-D logic, we suggest that an opportunity co-creation process consists of four distinct, but interrelated and iterative phases: (1) developing value propositions, (2) communicating value propositions, (3) deriving and determining value, and (4) (re)forming markets. Thus, innovation processes (or the co-creation of opportunity) involve both the co-creation of value propositions and markets (see Figure 31.2). Value propositions are not created solely by an entrepreneur, but rather in a recursive process featuring multiple, experimenting, and resource-integrating actors. The process starts with incomplete or misguided ideas presented to solve problems. These ideas are communicated as value propositions, which entrepreneurs suggest based on their interactions with other stakeholders, past experiences, research, or imagination.

As a result, opportunities are co-created and service ecosystems thus transformed. Actors can experiment and develop numerous value propositions that they find innovative, but which nonetheless do not resonate with what other actors seek or institutional arrangements support. Here, trial-and-error experimentation using effectuation can be a critical element in the value proposition crafting process to derive those reciprocal promises of value that are perceived as attractive by the potential beneficiaries and other stakeholders. Thus, the value proposition is one of the outcomes of innovation processes, but the original/modified value proposition has to be accepted in the market by several actors to become institutionalized and viable.

While a value proposition is an outcome of an innovation process (which may also serve as an input to another innovation process), it is not an innovation in and of itself. First of all, a value proposition may be rejected by other actors in multi-actor negotiations and does not

result in any market offering and formalized service exchange. Following Norrmann and Ramirez's (1993) view of market offerings as “frozen activities”, value propositions precede concrete manifestations of the relationships between actors in an ecosystem (and thus resource integration). Only those propositions that are agreed upon by all actors involved in multi-actor negotiations will become market offerings (Kowalkowski, 2011). Second, even when a value proposition is accepted, and value creation through service exchange on an actor level takes place, the new offering might not be successful, and therefore, eventually be discarded. If the offering does not have any wider-scale impact, it will not contribute to producing institutionalized change in the service ecosystem (i.e., a transformed service ecosystem).

Coming back to Figure 31.1, the co-creative practice of forming a value proposition can be seen as a result of unexpected changes in the market, such as changes in customers’ needs. In these cases, a customer could be the one that initiates the generation of a novel value proposition. For example, by requesting suppliers to provide outcomes, such as the availability of functionality, rather than particular goods and services, a customer (or a group of actors) may drive change in markets. Such changes can prompt organizations to explore new market opportunities through innovative offerings that eventually do transform the service ecosystem. By focusing on experimentation and negotiations throughout the ecosystem transformation, effectuation enhances the understanding on how this process unfolds. In other words, the innovation process is about changes in the “relatively self-contained, self-adjusting system of resource-integrating actors connected by shared institutional arrangements and mutual value creation through service exchange” (Vargo & Lusch, 2016, pp. 10–11). This is represented in Figure 31.2 in which we supplement the narrative of innovation processes and their outcomes with concepts of effectuation.

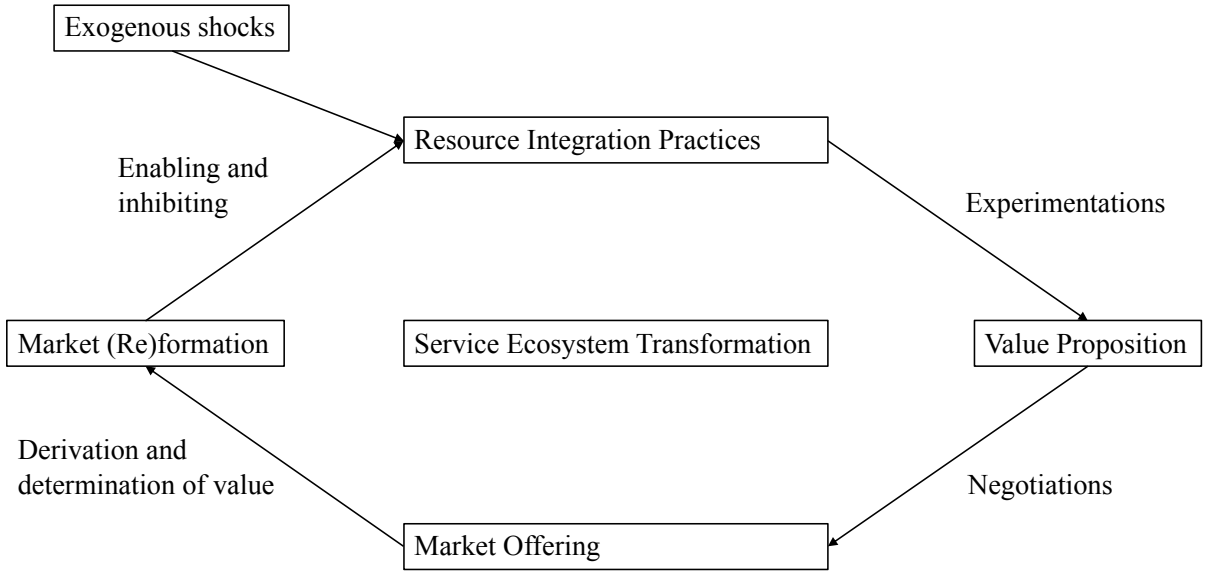

Figure 31.2 Innovation processes and their outcomes: a supplemented view based on effectuation

Resource-integrating actors experiment different ideas and through trial-and-error develop value propositions. This initiates a process that invites other actors to interact in the development of the value proposition and the new market offering. In these multi-actor negotiations, some interactions become embodied in actual additional stakeholder commitments, and actors participate in the value proposition development, thereby shaping the initial versions of the market offering. Whether the market offering becomes institutionalized and (re)forms the market depends on the derivation and determination of value from the use of it. The (re)formed market structures influence resource-integrating actors by enabling and inhibiting their collaboration in service ecosystems. These structures as well as exogenous shocks can initiate new problems that require solutions from actors.

Thus, the effectual approach unboxes the relations between resource integration and value proposition development, market offerings, and market (re)formation. Until now, experimentation has not been discussed in detail in S-D logic. This discussion has, however, been suggested by Chen and Vargo (2010), Vargo et al. (2015), and Pera et al. (2016), who propose that customers are driven by experimentation motives to develop new products and services in service ecosystems. Negotiation is an example of the areas of more detailed discussions in which effectuation contributes to S-D logic. Negotiations are acknowledged in the S-D logic literature (e.g., Frow et al., 2014) but they are not part of its core concepts

(Pohlmann & Kaartemo, 2017). For instance, Frow et al. (2014) consider that actors negotiate how resources are integrated within a service ecosystem in a way that sustains each actor. Effectuation helps to understand various negotiation styles by suggesting relationship interdependence and goal ambiguity (Read & Sarasvathy, 2012). The effectuation literature also discusses how actors experiment and change direction as new information becomes available (Chandler et al., 2011).

Whalen and Akaka (2016) highlight the link between the use of a market offering and (re)formation of markets; they see derivation and determination of value as an important part of co-creation of opportunity. If value is not derived and determined from the use of a market offering, actors seek other solutions for their problems and the market offering does not become institutionalized. In addition to this view, we highlight that (re)formation of a market feeds back to resource integration practices and to the development of value propositions by enabling and inhibiting actors. On the one hand, markets enable further resource integration opportunities. On the other hand, there is potentially a darker side, when markets obstruct resource integration, resulting in less effective service systems (Edvardsson, Kleinaltenkamp, Tronvoll, McHugh, & Windahl, 2014). If the market inhibits resource integration, new value propositions aiming at higher efficiency are likely to be developed. This triggers a new round of service ecosystem transformation.

In the following, we provide an empirical case (London Underground) to illustrate how a new value proposition spurs market innovation, as new practices and offerings are established, new actor constellations are formed in the ecosystem, and changes are institutionalized. The illustration emphasizes several characteristics of effectuation: the role of inter-subjective sensemaking through negotiations, trial-and-error to develop value propositions, communicate value propositions, derive and determine value, and reform markets. Value propositions refer to one actor's (or a group of actors') invitation to other actors to join forces and integrate their resources to facilitate and manage value co-creation.

Case: London Underground

The Northern Line in London is Europe's most utilized underground line with over 800.000 passengers per day. The first parts of the line were in use already in 1890, and one hundred years later, it was commonly referred to as the "Misery line" due to its problems with constant delays and overcrowding. When London Underground replaced its rolling stock for the long and complex line in 1995, it did not specify the actual size of the fleet. Instead, the

customers asked for the availability of 96 cars every day during a 20-year period. The train manufacturer, Alstom, bid and won the public finance initiative (PFI) contract with the public-sector London Underground. In order to fulfil these requirements, Alstom built 106 cars and established local service workshops (Kowalkowski & Ulaga, 2017).

Following equipment failure, however, the Commissioner of Transport for London called for Alstom to lose its PFI contract in 2005. While the company earned significant bonuses, it did not fulfil the standards of train availability, as stipulated by the Public Private Partnership (PPP) that was introduced two years earlier. Under the PPP, the service ecosystem evolved still further. For example, Tube Lines, a private consortium, is responsible for maintaining the line's infrastructure. While managers at Tube Lines believed that the 1995 PFI (worth £429m over a 20-year period) gave Alstom too few incentives to maintain its trains well, the London Underground blamed Tube Lines for causing the problem by allowing Alstom to inadequately maintain the trains. For example, Alstom did more successful maintaining in similar trains on another line to a much higher standard under a different contract with more rigorous incentives and better alignment between the interests of the parties.

After two years of negotiations, Alstom agreed to significant changes in its contract in 2007. Rather than being paid according to how frequently the trains broke down (regardless of when), the company was now paid based on the length of delays and the number of passengers held up in case of failure. Such a measure, which penalized contractors more for failure at peak times, was how Tube Lines operated on other lines. Hence, the parties renegotiated their contract to bring Alstom's performance metrics into line with those for Tube Line's PPP, which runs until 2032 (Wright, 2005, 2007, 2009).

While the value propositions for all actors in this system have been adjusted over the years (including major contractual changes), the core elements of the initial market offering have not considerably changed. While managers at all three organizations acknowledge that room for improvement remains, Northern Line is an example of how PFI and PPP can be mutually beneficial when parties collaborate. It also illustrates "the powerful effects of an overhaul of financial incentives and re-examination of long-established working practices on the apparently intractable problems of a complex transport system" (Wright, 2009). Today, contracts wherein train operators pay service providers per outcomes, such as driven mileage, are common in the train industry.

The London Underground case contextualizes and shows how transformation of a service ecosystem is driven by value proposition—invitations to co-create value—from interdependent actors. The realization of value propositions needs resource integration, and as time passes and other actors accept value propositions, the exchange becomes institutionalized. The Northern Line example showcases how multiple resource-integrating actors have their own needs and negotiate value propositions that suit each other's purposes. Stakeholders do not know what to expect from the process but they self-select into it by making commitments to the project and then negotiate what that innovation should become. Stakeholders depend on and leverage already existing structures, which are based on their prior knowledge and experience. In the longer run, these structures are challenged, and the spread of exchange practices to other actors in the service ecosystem enables institutionalization of innovative value propositions. This is typical to effectuation in which entrepreneurs take a pre-existing framework and transform it to use it for new purposes. All in all, the case indicates how multiple value propositions influence other actors in the service ecosystem, and become stabilized as market offerings, and how the whole process explains the transformation of a service ecosystem.

5. Conclusion

This chapter has analyzed the contribution of the approach of effectuation to the understanding of the nature of innovation in the context of S-D logic. While there are essentially two particular outcomes of innovation processes—value propositions and aligned transformed service ecosystems—the former alone is insufficient to innovation. For innovation to be sustainable, new market practices must become institutionalized and value propositions agreed upon by the engaged actors to create and transform the service ecosystem. The chapter shows how, in the S-D logic framework, the views of effectuation can help elaborate the institutionalization processes in innovation by emphasizing experimentation in developing value propositions, and negotiations with resource-integrating actors.

Thus, the chapter responds to the call to conceptualize the interlinkage between resource integration, value propositions, and service ecosystems (Pohlmann & Kaartemo, 2017). We have analyzed how effectuation can be employed to explain various aspects of market offerings, (re)formation of markets, and transformed service ecosystems. The analysis shows that the creation of a novelty happens through (and is constrained by) the transformational

mechanisms of negotiations and experimentation. As a result, we propose that value propositions are invitations that bring together several resource-integrating actors, contributing with different resources and with various intentions for experimentation and negotiations. These value propositions shape the way actors are selected, collaborate, and perceive the world. This again influences the resource integration and value propositions, which become market offerings if they are agreed upon by the actors. All in all, the analysis of effectuation in the context of S-D logic supports the development toward a stronger conceptual convergence of marketing and entrepreneurship (Wieland et al., 2017), and calls for empirical studies that further clarify how effectuation can disclose innovation processes, and specify their nature in the S-D logic context. As a result, effectuation may supplement S-D logic in the development of a general theory of the market and value co-creation.

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