

## DIALOGUE

### Response to Arend, Sarooghi, and Burkemper (2015): Cocreating Effectual Entrepreneurship Research

The growing conversation around effectuation has been so immersive that we have barely noticed the passing of fifteen years since the introduction of the theory in this very journal. The current critique by Arend, Sarooghi, and Burkemper (2015; henceforth, “ASB”) invites reflection on this conversation. We begin our dialogue with five points of direct response to ASB. We then draw on those to advance exchange and future research possibilities for a yet broader community of scholars who will cocreate the future of effectual entrepreneurship research.

#### STRAW MAN AT SEA: POSITIVIST CRITIQUE OF A PRAGMATIST THEORY

At the conceptual heart of ASB’s evaluation of effectuation research are positivist notions of falsifiability and theory testing that assume a world with stable states *within which* human action occurs. This assumption is fundamentally different from that of effectuation logic, which takes a pragmatist stance of seeing the world as *in-the-making* and therefore *makeable* through human action.

This conceptual mismatch manifests in five important ways in the ASB exposition. First, it encourages ASB to adopt a positivist framework (3E) to assess (pragmatist) effectuation. Second, it guides ASB to create six assumptions (2015: 640–642) that either are not assumptions at all (#2 nonpredictive control, #3 means-driven action, and #4 affordable loss) or are simply false (#1 unjustified optimism in the abilities of the entrepreneur, #5 value creation, and #6 artifact success).<sup>1</sup> Third, it results in a

<sup>1</sup> For example, Sarasvathy (2001a: 260), in an article published in this very journal, refuted #6 in her Proposition 1, which states that effectuation is not likely to reduce the probability of failure but is likely to reduce the costs and time to failure. That same article also explicitly refuted #1, averring that no assumptions about a priori personality traits are necessary for effectuation theory. In fact, Sarasvathy used the following quote to make the case about optimism in particular: “Both the optimists and the pessimists contribute to successful inventions. The optimist invents the airplane; the pessimist, the parachute” (2001a: 259). These are just two examples; a detailed discussion of our claims with regard to each of the six assumptions is available on request from the authors.

misconstrual of effectual process logic (Sarasvathy & Dew, 2005a), bearing additional noneffectual assumptions (e.g., resource limitations), as well as noneffectual paths (e.g., contingency) and states (e.g., do not enter; presented in ASB’s Figure 1 [2015: 632]). Fourth, it guides ASB to only a narrow slice of the published effectuation research. To assess the completeness of ASB’s literature review, we performed our own search of ProQuest, JSTOR, and Google Scholar on the keyword “effectuation” and conducted forward citation lookups on every unique work researching effectuation. We identified 287 individual pieces of literature. Employing ASB’s twelve-point criteria and sorting for relevance and parsimony, we selected eighty-five additional works not cited by ASB that speak (sometimes partially and other times fully) to their criteria and critique. To illustrate the volume of literature our search revealed, set the stage for research suggestions, and aid fellow scholars, we present in Table 1 an update to the ASB literature review, organized along the lines of three of ASB’s most prevalent critique points.

The omission of 77 percent of relevant published effectuation literature (ASB cite twenty-six effectuation works<sup>2</sup>) generates the fifth issue. Beyond raising criticisms already tackled in the literature, ASB call for future research that is currently available (e.g., inductive research) and miss promising areas for advancing the field (see our next two sections). Overall, the issues resulting from ASB’s use of a positivist frame to critique a pragmatist theory become embodied in a straw man of effectuation. And we concur with ASB—that straw man is indeed ineffectual.

#### RISING TIDE: MOVING BEYOND THE POSITIVIST WORLDVIEW

Evident in the effectuation research publications not cited by ASB (please see Table 1 for a partial inventory) is the rising tide of scholars seeking to lift the field of entrepreneurship beyond the positivist

<sup>2</sup> Our comparison includes both cites in the published ASB manuscript and cites in the ASB unpublished Table 2b, referred to in footnote 8 of the ASB manuscript. The entire list of citations organized using ASB’s twelve criteria is available on request from the authors.

**TABLE 1**  
**Update to ASB Effectuation Literature Review**

ASB Criticism	Relevant Effectuation Literature Not Cited by ASB That Addresses Criticism and Offers Useful Starting Points for Future Research
Not built on or connecting with existing literature	<p>Numerous links have been established between effectuation and central topics in management and entrepreneurship. Below is a list of topic keywords extracted from ASB with citations to published articles relating effectuation to each of those topics.</p> <ul style="list-style-type: none"> <li>• Bayesianism (Archer, Baker, &amp; Mauer, 2009; Grégoire, Noël, Déry, &amp; Béchar, 2006; Sarasvathy &amp; Dew, 2005b)</li> <li>• Bricolage (Archer et al., 2009; Baker, Miner, &amp; Eesley, 2003; Desa, 2012; Di Domenico, Haugh, &amp; Tracey, 2010; Mauer, 2014)</li> <li>• Cocreation and service dominant logic (Bettencourt, Lusch, &amp; Vargo, 2014; Edelman &amp; Yli-Renko, 2010; Read &amp; Sarasvathy, 2012)</li> <li>• Creation (Alvarez &amp; Barney, 2007; Alvarez, Young, &amp; Woolley, 2015; Corner &amp; Ho, 2010; Kleinaltenkamp et al., 2012; Mainela &amp; Puhakka, 2009)</li> <li>• Entrepreneurship: Effectuation is covered in just about every current review of the entrepreneurship literature (recent examples include Burg &amp; Romme, 2014; Busenitz, Plummer, Klotz, Shahzad, &amp; Rhoads, 2014; Hills &amp; Hultman, 2013; McDougall-Covin, Jones, &amp; Serapio, 2014; Wang &amp; Chugh, 2014)</li> <li>• Experimentation (Andries, Debackere, &amp; Looy, 2013; Chesbrough, 2010; Holloway &amp; Sebastiao, 2010; Mthanti &amp; Urban, 2014; Nelson, 2012)</li> <li>• Improvisation (Baker et al., 2003; Di Domenico et al., 2010; Evers &amp; O’Gorman, 2011; Leung, Zhang, Wong, &amp; Foo, 2006)</li> <li>• Innovator’s dilemma and technology innovation (Chesbrough, 2010; Sandström, Berglund, &amp; Magnusson, 2014; Sharma &amp; Salvato, 2011)</li> <li>• Institutional theory (Dacin, Dacin, &amp; Tracey, 2011; Dorado &amp; Ventresca, 2013; Harms &amp; Schiele, 2012; Pacheco, York, Dean, &amp; Sarasvathy, 2010)</li> <li>• Opportunity (Autio, Dahlander, &amp; Frederiksen, 2013; Corbett, 2007; Dimov, 2007, 2011; Mainela &amp; Puhakka, 2009)</li> <li>• Population ecology and selection mechanisms (Breslin, 2008; Brush, Manolova, &amp; Edelman, 2008; Sarasvathy, Menon, &amp; Kuechle, 2013)</li> <li>• Resource-based view (Alvarez &amp; Barney, 2007; Kraaijenbrink, Spender, &amp; Groen, 2010; Sarasvathy, Dew, Velamuri, &amp; Venkataraman, 2010; Sirmon &amp; Hitt, 2003)</li> <li>• Real options (Dew, Sarasvathy, Read, &amp; Wiltbank, 2009; Garud, Kumaraswamy, &amp; Karnøe, 2010; Sarasvathy &amp; Venkataraman, 2006)</li> <li>• Rivals and substitutes (Sarasvathy &amp; Dew, 2005b; Schweizer, Vahlne, &amp; Johanson, 2010)</li> </ul>
Sparseness of empirical observation	<p>Effectuation has been tested empirically using methods that include surveys, qualitative in-depth case analyses, meta-analyses, and experiments. Below is a list of 28 empirical studies, not cited by ASB, with the N of the sample and a brief description of the empirics.</p> <ul style="list-style-type: none"> <li>• N = 352 (Berends, Jelinek, Reymen, &amp; Stultiëns, 2014) event histories in product innovation</li> <li>• N = 219 (Blauth, Mauer, &amp; Brettel, 2014) product development employees</li> <li>• N = 33 (Chetty, Partanen, Rasmussen, &amp; Servais, 2014) longitudinal cross-country case study</li> <li>• N = 18 (Chu &amp; Luke, 2012) microenterprise programs in Vietnam</li> <li>• N = 64 (Dew, Sarasvathy, Read, &amp; Wiltbank, 2011) contrast experts and novices</li> <li>• N = 4 (Dutta &amp; Thornhill, 2014) longitudinal entrepreneur case studies</li> <li>• N = 93 (Engel, Dimitrova, Khapova, &amp; Elfring, 2014) randomized experiment on business students</li> <li>• N = 3 (Ewald &amp; Senderovitz, 2013) in-depth case studies of small- and medium-size enterprises (SMEs)</li> <li>• N = 7 (Faiez &amp; Boujelbène, 2012) entrepreneurial networks</li> <li>• N = 10/47 (Fiet, Norton, &amp; Clouse, 2013) creators (10) of successful ventures (47)</li> <li>• N = 4 (Gabrielsson &amp; Gabrielsson, 2013) case studies of growth ventures</li> <li>• N = 2 (Harmeling &amp; Sarasvathy, 2013) in-depth venture histories</li> <li>• N = 65 (Harms &amp; Schiele, 2012) new venture “gazelles”</li> </ul>

(Continued)

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ASB Criticism	Relevant Effectuation Literature Not Cited by ASB That Addresses Criticism and Offers Useful Starting Points for Future Research
Lack of adoption by practitioners and educators	<ul style="list-style-type: none"> <li>• N = 12 (Hulsink &amp; Koek, 2014) entrepreneurs under the age of 25</li> <li>• N = 5 (Kalinic, Sarasvathy, &amp; Forza, 2014) cases of manufacturing SMEs</li> <li>• N = 2 (Kaufmann, 2013) countries, comparison of technology strategy</li> <li>• N = 15 (Liu &amp; Issak, 2011) Chinese entrepreneurs and government officials</li> <li>• N = 30 (Maine, Soh, &amp; Dos Santos, 2015) scientist entrepreneur decisions</li> <li>• N = 9 (Mainela &amp; Puhakka, 2009) international joint venture managers</li> <li>• N = 9 (Mort, Weerawardena, &amp; Liesch, 2012) cases on born globals</li> <li>• N = 421 (Mthanti &amp; Urban, 2014) high-technology firms</li> <li>• N = 60 (Murnieks, Haynie, Wiltbank, &amp; Harting, 2011) venture capitalists</li> <li>• N = 3 (Nummela, Saarenketo, Jokela, &amp; Loane, 2014) start-ups in three different countries</li> <li>• N = 9 (Reymen, Andries, Berends, Mauer, &amp; Stephan, 2015) high-technology firm cases used for inductive study</li> <li>• N = 4 (Schirmer, 2013) in-depth social entrepreneur case studies</li> <li>• N = 1 (Sitoh, Pan, &amp; Yu, 2014) case study of game console project</li> <li>• N = 8 (Watson, 2013) respondents in an ethnographic study</li> <li>• N = 421 (Werhahn, Mauer, Flatten, &amp; Brettel, 2015) German firms used to build (N = 163) and test (N = 258) effectual orientation scale</li> </ul> <p>A number of books and major practical articles on effectuation, or building on effectuation, have appeared in the last 6 years, including the following.</p> <p>Front cover featured article in <i>Inc.</i> magazine, "How Great Entrepreneurs Think" (Buchanan, 2011)</p> <p>Books:</p> <ul style="list-style-type: none"> <li>• <i>Corporate Effectuation: What Managers Should Learn from Entrepreneurs!</i> (Blekman, 2011)</li> <li>• <i>Just Start: Take Action, Embrace Uncertainty, Create the Future</i> (Schlesinger &amp; Kiefer, 2012)</li> <li>• <i>Effectuation: Successful entrepreneurs think, make decisions and act</i> (Faschingbauer, 2013)</li> <li>• <i>Decisive: How to Make Better Choices in Life and Work</i> (Heath &amp; Heath, 2013)</li> <li>• <i>Little Bets: How Breakthrough Ideas Emerge from Small Discoveries</i> (Sims, 2013)</li> </ul> <p>Gold medal-winning textbook <i>Effectual Entrepreneurship</i> (Read, Sarasvathy, Dew, Wiltbank, &amp; Ohlsson, 2010), with the following statistics:</p> <ul style="list-style-type: none"> <li>• Translated into 5 languages</li> <li>• Sold &gt; 10,000 copies</li> <li>• Adopted at &gt; 350 universities around the world</li> <li>• Free audiobook version downloaded &gt; 3,500 times from effectuation.org</li> </ul> <p>Effectuation.org website summary statistics:</p> <ul style="list-style-type: none"> <li>• One of the top 750,000 most popular websites in the world (alexa.com)</li> <li>• &gt; 75 teaching instruments</li> <li>• &gt; 1,000 registered entrepreneurship instructors</li> </ul> <p>Recent academic literature on entrepreneurship education has pointed to the need for effectuation in business schools, as related to the following:</p> <ul style="list-style-type: none"> <li>• Design thinking (Glen, Suci, &amp; Baughn, 2014)</li> <li>• Experiential learning (Bliemel, 2013)</li> <li>• Personalized learning (Middleton &amp; Donnellon, 2014)</li> <li>• Public policy implications (O'Connor, 2013)</li> <li>• Teachability (Bureau &amp; Fendt, 2012)</li> </ul>

perspective. Put differently, perhaps the really interesting segue ASB offer future research may be the following question: What if the lessons entrepreneurship teaches point to a worldview where (a) our prior assumptions about human characteristics are unnecessary (such as the efficacy of certain special abilities or personality traits for successful

entrepreneurship), and (b) our stance about the world and the future as being outside our control is mostly wrong?

Note that we are not saying that an effectual worldview is correct for all people (including expert entrepreneurs) at all times. Rather, we are saying only that immersive and high-performing

experience in entrepreneurship may lead one to believe in a different worldview where ALL people can cocreate successful ventures with nothing more than resources already within their control and stakeholders who self-select into the process. Moreover, the issue at stake here is not simply whether people do or should believe in this worldview, although those are perfectly valid and important issues; instead, what is at stake is the problem space in general. Conceptually, effectuation is most useful where traditional notions of optimality and bias break down or simply do not apply. These are spaces carefully described by scholars such as Frank Knight (1921), Nelson Goodman (1983), Richard Rorty (1989), and Hans Joas (1996)—scholars who have largely been ignored by social scientists because they are difficult to incorporate into models shaped by an allegiance to predictability and optimality. And it is precisely by embracing these challenging situations that effectuation offers new insights into the theory and practice of both entrepreneurship and management.

Therefore, the issue of importance here can be stated in the form of a pragmatist critique of effectuation, as follows: *What difference does it make if people act as though they believe in an effectual worldview? What difference might it make for entrepreneurship scholarship, pedagogy, and practice? The central difference between a positivist critique (Is effectuation true?) and a pragmatist one (Is effectuation useful?) boils down to the effort to uncover and delineate details of how, when, where, and to whom effectuation makes a difference, some of which we explore in the next section.*

### TIDE AT THE FLOOD<sup>3</sup>: OPEN QUESTIONS FOR FUTURE RESEARCH

Even though effectuation has been elaborated theoretically to connect with canonical theoretical models, such as the New Uppsala model in international business (Schweizer, Vahlne, & Johanson, 2010), and has been empirically tested using rigorous metrics, such as in Brettel, Mauer, Engelen, and Küpper (2012), scholarly work on effectuation is as yet incomplete, inconsistent in places, and probably far from obvious in

application. And although this claim is likely applicable to most management theories, we agree with ASB's contention that critical reflection can point to productive empirical research opportunities and, ultimately, to better theory. Based on our work in effectuation, combined with the comprehensive review we conducted for this dialogue, we highlight seven areas where we believe effectuation would benefit from additional attention (underlined terms refer to entries in Table 1).

1. Clarifying the concept of effectual control: Currently, we seem to be confounding control as strategy with control as outcome. For example, effectuation consists in strategies that leverage elements within the control of entrepreneurs and their stakeholders to cocreate the future, thereby allowing them to eventually achieve control over outcomes. Contrast that with prediction as strategy, where the emphasis is exclusively on acting against anticipated future outcomes, even if that requires entrepreneurs to pursue resources currently outside their control (Stevenson & Jarillo, 1990). Distinguishing these two aspects of control within effectuation can be done using well-developed theories from psychology, such as learned helplessness (Peterson & Seligman, 1993) and learned optimism (Seligman, 2011), and can open fertile avenues for future research.

2. Specifying the unit of deliberate practice in developing entrepreneurial expertise: The literature on expertise in cognitive science has clearly identified the role of deliberate practice as the mechanism through which expertise is acquired. But, as Baron (2009) argued, no clear unit or mechanism for the acquisition of effectual expertise in entrepreneurship has yet been identified. We believe identifying one or more such mechanisms would be useful for strengthening effectuation theory as a subset of expertise studies in cognitive science.

3. Transitioning from effectual to causal approaches, and vice versa: Sarasvathy highlighted that "63% of the [expert] subjects used effectuation more than 75% of the time" (Sarasvathy, 2001b: D1; see also Sarasvathy, 1998, 2008), and, the rest of the time, experts used alternative approaches, such as causation and Bayesianism. Effectuation research needs to spell out in more detail (a) the conditions under which alternate approaches may be necessary and (b) useful ways to mix and match predictive and nonpredictive strategies

<sup>3</sup> This refers to Shakespeare's "There is a tide in the affairs of men. Which, taken at the flood, leads on to fortune" (*Julius Caesar*, Act 4, Scene 3).

and heuristics—in corporate effectuation, for example.

4. Understanding goal hierarchy and precommitment: With all due respect to ASB, effectuation is not a theory of “trial and error.” The effectual process is purposeful, enables experiential learning, and is propelled through high-level goals that get shaped and embodied into workable business models and opportunities through precommitments from self-selected stakeholders (Sarasvathy & Dew, 2005a). This suggests potential research projects connecting effectuation with the literature on goal setting (Locke & Latham, 1990), planning (Lachmann, 1976), and negotiations (Bazerman, Curhan, Moore, & Valley, 2000).

5. Endogenizing selection mechanisms: Since self-selected stakeholders in the effectual process can substitute for an exogenous market as the primary selection mechanism, links need to be forged with those bodies of literature that speak to the interconnectedness of variation and selection in evolution (Henderson & Stern, 2004). One important and growing stream of evolutionary theorizing that speaks to this is exaptation (Andriani & Carignani, 2014; Andriani & Cohen, 2013), which can bridge effectuation not only with endogenous selection but also with niche construction and the literature on technological innovation more broadly.

6. Delineating means and resources: Given the emphasis in the management literature on the benefits of resources (Barney, 1991, 2001; Wernerfelt, 1984), spelling out what counts as means in effectuation, describing what it takes to transform means into resources, and explaining to what extent resources are a constraint on or an enabler of opportunities are all important issues worth investigating at the nexus of entrepreneurship and management (Corbett & Katz, 2013).

7. Exploring equity and cocreation: Partnerships are central to effectual logic, and equity, one of the key enablers of cocreative relationships, is ripe for new conceptualization (Breugst, Patzelt, & Rathgeber, 2015). To date, almost all our knowledge about the role of equity comes from finance, particularly finance in large corporations that are publicly traded in stock markets. But equity relationships in new ventures span issues from emotional and psychological ownership to contractual negotiations for compensation and decision rights that impact whether and what rewards may be cocreated and how they might be shared among equity holders. Although cocreative equity

relationships may be important for the structure and performance of new ventures, they are currently a black box in entrepreneurship research. We are convinced that shining new light into this black box may open up avenues of research ranging from social psychology to finance, and even macroeconomics and public policy, especially given that the latter are only recently beginning to awaken to effectual entrepreneurship (Klein, Mahoney, McGahan, & Pitelis, 2010; Whittaker, 2009) and the importance of early-stage equity relationships in kick-starting new ventures.

## IN SUM

We have made our best attempt to write this dialogue in the effectual spirit—to present it in a way that recognizes the effort and attention of all the self-selected stakeholders, ASB expressly and gratefully included, who have chosen to commit their precious means to the uncertain and hopefully valuable task of advancing effectuation. And to present it in a way that encourages our fellow scholars to continue to cocreate research capable of tackling futures made, as well as futures found.

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Stuart Read (sread@willamette.edu)  
Willamette University

Saras D. Sarasvathy  
(sarasvathyS@darden.virginia.edu)  
University of Virginia

Nicholas Dew (ndew@nps.edu)  
Naval Postgraduate School

Robert Wiltbank (wiltbank@willamette.edu)  
Willamette University

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## Deepening the Dialogue: New Directions for the Evolution of Effectuation Theory

Arend, Sarooghi, and Burkemper (hereafter, “ASB”) evaluate effectuation theory by applying a “3E” framework that they position as comprehensive and broadly applicable to business theory (2015: 11). In their dialogue response to ASB, Read, Sarasvathy, Dew, and Wiltbank (2016) argue that the 3E framework is, in fact, inapplicable to effectuation theory because it embodies positivist criteria inappropriate for effectuation’s pragmatist stance. We start from the premise that theory development is an evolutionary process, an observation that fuels our approach to assessing how effectuation theory might be advanced. Highlighting the pragmatist roots of effectuation theory, we suggest that

effectuation research has thus far emphasized one aspect of pragmatism—creativity—while a second aspect of pragmatism—habit—has been underexplored. We also highlight the limited attention directed to date beyond the level of the individual. Based on these observations, we outline possibilities for new directions for developing effectuation theory.

### EVALUATING A THEORY’S EVOLUTION

The academic enterprise is one in which theories are constantly coconstructed and reconstructed by a collegium. That is, theories evolve through a process of selection and retention whereby revisions and modifications occur as theorists articulate, disseminate, apply, refine, and repurpose them (Weick, 1989). Moreover, the processes of theory construction and reconstruction in the social sciences can affect the phenomena about which theory is being created; this occurs as people learn from both theories and practice about their world and act on this knowledge. This type of dynamic, collaborative perspective on theory is inconsistent with the view that theories should be evaluated as though they were settled sets of assumptions, concepts, propositions, and boundary conditions proposed by an exclusive group of authors whose aim is to “capture” a focal phenomenon. Instead, it highlights that the evaluation of a theory needs to include a consideration of its evolutionary path and, potentially, the paths not yet taken. We argue that those seeking to advance a field (such as entrepreneurship) by taking stock of a pragmatist theory (such as effectuation) might better serve their scholarly peers by recognizing its dynamic nature and considering how it might fruitfully further evolve.

If scholars adopt this evolutionary view of theory, they will not ask whether theories are “ineffectual” (ASB, article title). Instead, they will assess (for example) whether constructs have become stabilized such that they are consistently defined, with clear and agreed upon scope conditions and semantic relationships to other constructs (Suddaby, 2010), or whether they are unstable and require further clarification or possibly elimination. Scholars will also examine related theories for concepts that could usefully be integrated to augment the focal theory. An approach to theory assessment that recognizes its evolutionary nature would not