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Critical factors for transforming creativity into sustainability

Wojciech Przychodzen [a, 1], Justyna Przychodzen [b, *], Daniel A. Lerner [c, d]

[a] Department of Finance, University of Deusto, Hermanos Aguirre 2, 48014 Bilbao, Spain
[b] Laureate Online Education, Haarlerbergweg 23 C, 1101 BH Amsterdam, The Netherlands
[c] Deusto Business School, University of Deusto, Hermanos Aguirre 2, 48014 Bilbao, Spain
[d] Universidad de Desarrollo, Chile

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ABSTRACT

Although creativity and sustainability have received considerable attention in the literature, there is limited research considering both – particularly in relation to co-existing organizational factors which facilitate the transformation of creativity into sustainable products. This paper explores this gap through an analysis of six case studies of commercial organizations presenting both successful and unsuccessful implementation of sustainable products/services, across types of firms and industries. The research framework focuses on three general facets: 1) leadership; 2) boundaries, where different aspects of internal and external firm's activities enable a diversity of opinions and stakeholder engagement; and 3) economic alignment/instrumentality, in which the goal of wealth creation is present and supported by a firm's capabilities. The main finding of the paper is that appropriate leadership along with effective boundary spanning and clear profit orientation are simultaneously necessary conditions for successful transformation of creative business ideas into successful sustainable products/services by business organizations. This implies a steep discounting of success prospects if any of the above factors is lacking. The work contributes to the development of general theoretical frameworks and approaches for achieving organizational success based on co-creating social and economic value at the same time.

1. Introduction

Various scholars, policymakers, and practitioners agree that a fundamental reorientation of business activities towards sustainability is needed to mitigate serious environmental degradation and the social and financial inequities we currently face (e.g. Shrivastava, 1995; van Kleef and Roome, 2007). A fundamental reorientation of business means the response by industry to these challenges must be creative – i.e. it must go beyond optimizing current models or tuning the status-quo. Creativity is central to initiating innovation (e.g. Amabile, 1988). Yet creativity, novel and potentially useful ideas/possibilities (Amabile, 1996), is just the beginning. Irrespective of the ontological origin of sustainable opportunities, generating novel means or ends requires an actor (individual, team, or organization) to think and step outside of the existing "box." Organizations need to not just produce novel and useful ideas for sustainable outputs but also implement them – within, as well as beyond the boundaries of the organization (Lozano, 2014). This requires management of multiple interconnected components at the same time, in order to create additional societal and economic profits (Boons and Lüdeke-Freund, 2013).

In the past years, research on organizational creativity has expanded rapidly and increased our knowledge on breaching the barriers to it (e.g. Chesbrough, 2010). Furthermore, theoretical frameworks have been introduced that situate corporate creativity within its wider societal context (Sternberg, 2012). However, the factors that facilitate the connections between creativity and sustainability are yet relatively under-explored, especially in the area of embracing a wider business organizational context (Wetzel and van Gorp, 2014) and achievement of the triple bottom-line.

This article addresses the gap by focusing on factors appearing to determine whether creativity is transformed into sustainable products/services. In this paper, sustainable products/services are defined as those which provide environmental, social and economic benefits with minimum environmental and social burden

* Corresponding author. Tel.: +34 944361321.
E-mail addresses: wojciech.przychodzen@yahoo.com (W. Przychodzen), justyna.przychodzen@yahoo.com (J. Przychodzen), Daniel.Lerner@colorado.edu (D.A. Lerner).
[1] Tel.: +34 944139000.

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over their full commercial cycle. The identification of facilitating factors is based on in-depth analysis of six organizational case studies of successful and unsuccessful launches of innovative, sustainable products/services (Allianz Group, Better Place, Green Rubber, Rondeel, Mitka, Overstock.Com).

The focus of our research is contemporary business phenomena, within its real-life context, where the actual experience of organizational actors is focal. This is in line with Eisenhart's (1989) and Yin's (2003) case study approach, and why we selected this methodology to develop and extend theory based on actual business practice. Further contributing to the rationale for a multiple case study approach is that our primary interest is in what generally appears critical for organizations to enable sustainable innovations, across types of firms and industries. While all methodologies present tradeoffs, case studies contribute by generating and refining testable field-derived theory, grounded in phenomenological realities. Additionally, case studies offer the capability of observing complex organizationally situated phenomena that are imperfectly decomposable from each other, the firm, and the context/environment (a serious problem statistical inference); this allows analytical (versus statistical) generalization (Yin, 2003).

Analysis of the 6 commercial enterprise case studies reveals that a key to successful translation of creativity into sustainability lies in the simultaneous combination of several facilitating factors. The cases illuminate three core components firms must enact.

Firstly, within the boundaries of the firm, transformational leadership that includes addressing ecological/societal issues appears critical. It requires leadership to make the sustainability concept a vital and clearly communicated part of strategy – addressing both intra-personal and interpersonal needs, and maintaining unity among the management team. Furthermore, it also requires the existence of procedures for generating new outputs, within which both leaders and employees are encouraged to actively seek innovative solutions (Rickards and Moger, 2000).

Secondly, within and in part beyond the boundaries of the firm, it appears that creativity can catalyze into the creation of sustainable oriented value *when* different heterogeneous actors are involved in the development of new products/services and the configuration of value creation itself. At an individual and group level, internal and boundary-spanning co-development creates psychological investment (in the process and outcome) by disparate stakeholders within and beyond the firm. It also helps to overcome tensions between already established models and new models (including the obstacle of changing human behavior), required to effectively respond to current social, environmental and financial problems, by stimulating mutual understanding and flexibility among different groups (Klerkx et al., 2012). As a result, the firm is able to gather and allocate resources necessary to support new models and solutions by building productive linkages among existing actors.

Finally, the translation of creativity into sustainability requires that the creation of economic profits for the firm and its financial stakeholders is not a decoupled after-thought or "bonus." Creative sustainable products/services/production-processes must allow the organization not only to fully recover all associated costs, but also generate surplus wealth that is (directly) passed on to stakeholders. This diverges from the prior conventional concept of social business, defined as a primarily not-for-profit (no-loss, no-dividend) self-sustaining firm whose primary purpose and activity is to serve some segment of society by generating non-financial returns (Yunus et al., 2010).

This study contributes to the developing literature linking creativity and sustainability by grounded inquiry into the mix of factors and organizational behaviors necessary to realize successful implementation of socially and environmentally sound products/services by commercial organizations. Our holistic approach, incorporating both the firm and the wider sphere of organizational behavior, provides insight into the effective mechanisms by considering both successful and unsuccessful organizational implementation attempts. It also enables developing/refining general theoretical frameworks and approaches for achieving long-term organizational sustainability, co-creating social and economic value at the same time. The latter, while rather underdeveloped in existing literature, is of considerable theoretical and practical importance; for long-term survival and social/ecological impact in a competitive market environment, sustainability oriented organizations must proactively manage a commercial imperative and profitability.

2. Theoretical framework and development of propositions

Existing literature suggests various factors are important for the successful implementation of new products and services. Such factors range from an overall corporate culture that creates an innovation-friendly climate within organization and encourages risk-taking behavior (Ernst, 2002), to processes enabling the company to collectively collaborate both internally and externally (Mishra and Shah, 2009), to proper financial controls (Bonner et al., 2002), to even luck (Khurana and Rosenthal, 1997). The above factors do not exist in vacuum, and the simultaneous lack of a number of them might significantly reduce the probability of success in new product or service development (Søndergaard, 2005).

It warrants noting that any particular factor cannot supplant the importance of corporate philosophy and culture. Rather, philosophy and culture are relatively superordinate and part of the context in which an innovation attempt occurs (De Brentani and Kleinschmidt, 2004). We focus on three associated organizational factors: leadership, boundary spanning, and economic alignment. We focus on these as they more readily malleable (than philosophy/culture) and based on the literature as now described.

2.1. Leadership

Recognizing opportunities for new products/services/conversion-processes requires creativity (e.g. Ward, 2004). Furthermore, unlike other forms of creativity and innovation (e.g. artistic), the scope of action required for transformation of creative ideas into innovative organizational products/services is greater. Unlike the creative artist or potentially even scientist – for the creation of sustainable products/services – even the most creative individual does not stand to possess all the requisite inputs, let alone conversion capabilities (e.g. Lerner, 2016). Thus translation of creativity into sustainable business outputs necessitates coordinated action, of various actors across space and time. Consequently, effective leadership theoretically reasons to be a critical catalyst.

In terms of the leadership that is apt to be effective for transformation of creative ideas into innovative organizational products/services – it is relevant to first consider the particular challenge. The most defining characteristic of the coordination challenge of innovation is uncertainty. As articulated by McMullen and Shepherd (2006, p. 133), uncertainty is inherent to (innovation) opportunities, with "[uncertainty] further enhanced by the novelty intrinsic to entrepreneurial actions (Amabile, 1997; Smith and DiGregorio, 2002), such as the creation of new products, new services, new ventures, and so forth (Gartner, 1990; Schumpeter, 1934)." It is under conditions of uncertainty, and in the face of exploitation traps (Levinthal and March, 1993) that internal agents must be engaged and led to realize innovation.

This suggests the need for transformational, visionary, charismatic, leadership. Consistent with this, prior literature has indeed found such leadership positively linked to innovation (e.g. Jung et al.,

2003), and the transformation of creativity into innovation (e.g. Gumusluoglu and Ilsev, 2009). Furthermore, for sustainable innovations, not only is outcome uncertainty inherent, but additional uncertainty and ambiguity exists in regards to the relative weighting of financial and socio-environmental outputs (i.e. the goals of innovation). Thus for sustainable innovations, such leadership may be a particularly necessary condition. Indeed such leadership combined with internal knowledge management has been positively linked to sustainability oriented innovation (e.g. Bossink, 2007).

Taken together, and as will be further considered in our case analyses and follow-on discussion, this leads to our first proposition:

Proposition 1. *For the transformation of creativity into sustainable innovations, transformational leadership within the organization is critical.*

2.2. Boundary spanning

Existing literature shows that access to different opinions, visions and knowledge has a positive influence on creativity and innovation in organizations (Tushman, 1977; Tsai, 2001). It mitigates uncertainty, increases interpretative flexibility of different actors within and beyond the firm, and positively influences overall congruence. This is especially important in the context of sustainability, where mutual consistency between its different aspects (social, environmental, and financial) and consideration of the entire value chain as a source of opportunity is absolutely necessary (Larson, 2000).

The major challenge for an organization aimed at catalyzing creativity into the creation of sustainable products or services is to build ties that span organizational boundaries and bring heterogeneous expertise to legitimize certain visions (Hsiao et al., 2012). Boundaries are a defining characteristic of organization (Aldrich and Herkel, 1977). Boundary spanning, as a link between different spheres of activities and demarcation lines, promotes a diversity of opinions to overcome possible innovation lock-ins by ensuring broad stakeholder participation (Foxon and Pearson, 2008).

Furthermore, activation of cross-boundary spanning increases the likelihood of creation of Simmelian ties, within which parties involved are not only strongly tied to each other, but also to at least one common third-party. This, in turn should lead to better innovation performance (Tortoriello and Karckhardt, 2010). Other studies also show, that very high cooperative orientation leads to a high degree of innovativeness (Bullinger et al., 2010). This leads us to our second proposition:

Proposition 2. *Organizational ability to transform creativity into sustainable products or services depends on its ability to build linkages across existing boundaries (cross-boundary spanning).*

2.3. Economic alignment

Numerous studies examine relationships of various organizational factors and creativity. Many researchers are interested in how expertise, work evaluation and systems, emotional intelligence, and financial performance affect creativity (Tang et al., 2014; Slijkhuis et al., 2013; Parke et al., 2014; Chang et al., 2014; Scopelliti et al., 2014). However, the role of creativity in shaping fundamental firm activities and strategy has received less attention. Existing literature has largely focused on the impact of creativity on a firm's product innovation performance and development (Elliot and Nakata, 2013; Goldenberg and Mazursky, 2002; Dul and Ceylan, 2014). Although creativity is perceived as a key tool in market competition, many innovation attempts are not profitable, meaning innovators often fail to obtain economic returns from any particular innovation (Hunt, 2013; Koellinger, 2008). None the less, the notion that creativity enhances firm competitiveness or performance is also espoused (Zhou and Shalley, 2008; Gilson, 2008) – leading to the underlying question of how (and through which channels) creativity influence companies' financial performance.

The first channel through which creativity appears to influence financial performance is the development and delivery of innovative products and services. For example, unique products/services are key for sustaining consumer satisfaction in existing competitive markets as well as creating new markets, with their design involving R&D activities undertaken by the company (Kohtamäki et al., 2013) across its different parts. R&D can positively influence a firm's financial performance by increasing productivity, lowering costs and/or decreasing throughput time (Swink, 1999; Doll et al., 2010). Apart from above, developing new offerings based on an active interaction between the R&D function/constituents, other internal stakeholders, and consumers, can increase customer satisfaction and loyalty, enabling greater revenue and potentially higher margins (Smith and Wright, 2004; Heskett et al., 2008; Theoharakis et al., 2009).

Related to the above, another channel for creativity to influence economic alignment and ultimately financial performance involves the innovation design and development process with external stakeholders. Trust and openness between parties are crucial in exchanging, combining, and creating new ideas and solutions (Adler and Kwon, 2002; Koźmiński, 2004). Trustworthy collaboration with supply-chain partners and customers helps limit potential opportunism, and thus decreases transaction costs (connected with monitoring partners and investing into the development of relatively transferable knowledge/solutions), thereby increasing productivity and thus potential profitability (Kohtamäki et al., 2013). Grönroos (2008) for example suggests that the customer can participate in the R&D processes undertaken by the company. Such participation in the development of creative solutions reduces information asymmetries between the supplier and the customer (Prahalad and Ramaswamy, 2004) which should result in better product customization and ultimately, firm profitability (Dyer and Chu, 2003). Based on empirical research, Kohtamäki et al. (2013) found that delivering complex, R&D knowledge-based services may increase firm profits only if the firms are capable of building trusting relationships with their customers.

The final channel through which creativity influences economic performance relates to a firm's capabilities in legal protection of innovative solutions, marketing and technology (Su et al., 2013). Legal capability refers to the firm's ability to manage legal affairs, protect its intellectual assets, and defend against potential imitators. Marketing capability refers to firm's abilities in market research (identification of trends and customer segmentation), market planning and marketing implementation (launching a product innovation and creating customer loyalty). Thus, marketing capability reflects the firm's ability to offer desired innovations at the right place, time, and price – which contributes to greater profits (Vorhies and Morgan, 2005). Technological capability reflects a firm's abilities to develop and use technological resources (Song et al., 2005). Some researchers point out that technological capability may be connected with ignorance of market demand (as the result of erroneous belief of technological superiority) (Levinthal and March 1993) and overuse of available resources. In other words, there can be a negative moderating effect of technological capability on the relationship between product innovation and firm performance. A study conducted by Su et al. (2013) revealed that legal and marketing capability positively influence the relationship between product innovation and firm performance, especially in an environment with intense competition – while technological capability has a negative moderating effect,

which becomes more significant as technological turbulence increases.

Based on the above literature, we posit the following general proposition:

Proposition 3. *Creativity oriented on enhancing economic performance is a necessary condition in implementing sustainable innovations.*

3. Methods

While the preceding propositions were derived and developed based on our consideration of extant literature, the question remains as to how well the theoretical propositions fit phenomenological organizational realities. We now examine the propositions in multiple, concrete, business organizational contexts. In other words, we do not use qualitative cases to develop new propositions – nor to quantitatively test hypotheses. Rather, we examine concrete, naturally occurring, ecologically situated cases to qualitatively assess and refine the general, necessarily abstract, theory put forth above.

The research method employed in this paper was based on case study analysis which "involves using one or more cases to create (or examine and refine) propositions and/or midrange theory from case-based, empirical evidence" (Eisenhardt, 1989). Case study research uses "rich, empirical descriptions of particular instances of a phenomenon that are typically based on a variety of data sources" (Yin, 1994).

The research framework that we used in this study is illustrated in Fig. 1.

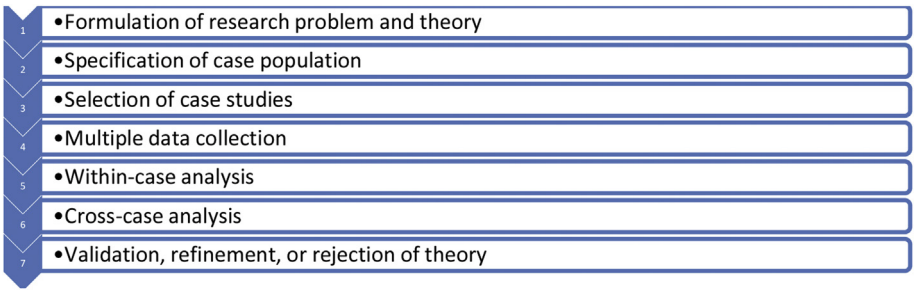

Fig. 1. Research framework.

We started from the general research question and formulation of *apriori* theory based on existing literature review. According to Eisenhardt (1989), this is prudent in order to focus efforts and provide better grounding of the research. As the objective of the research method was to validate (or find evidence to the contrary) and extend emerged theory, the selection of cases should not be random but ought to be theoretical guided. Thus, we looked for case studies connected with attempts to transform creativity into sustainable products/services. The cases needed to be multidimensional (considering social, environmental, and financial aspects of sustainability) and interdisciplinary, share common characteristics, and provide data necessary to address the main research question and examine/challenge the propositions put forth. For these reasons we focused on case studies that reflect both successful, as well as unsuccessful launches of sustainable products/services by commercial organizations. By doing so, we did not avoid difficult questions, inconsistencies and uncertainties inseparably connected with innovative activities in the business world. We also aimed to select case studies from different industry and national contexts. This sampling strategy serves to cast light (on possible similarities) across contexts, increasing our capacity to develop generally applicable theory from the analysis (Lombardi et al., 2012).

Having to look at different commercial organizations, with different sizes, philosophies and located in different industries, we operationalize success as the launch and survival of sustainable products/services. This is reflected in the commercialization of the product/service and its continued existence. If the above conditions are not met, we define the result of a given attempt to be unsuccessful/a failure.

In terms of data, desiring academically prepared/vetted information, we began with the entire population of cases (more than 50,000) in the European Case Clearing House database. From this population, we then circumscribed our sample to 740 cases which dealt with both sustainability and innovation based on keywords. We further reduced the number to 567 cases, limiting our consideration to those published after year 2007 (in order to capture the most current reality) and fully available on-line. The latter ensures any scholar or other reader can freely access the primary source we used, and from which our conclusions are drawn. Given our theoretical interest about factors that facilitate overcoming obstacles to innovation, we further narrowed our sample to 22 studies presenting successes/failures, obstacles and/or risk management approaches, and mentioning factors related to leadership, boundary spanning and economic alignment. This was done by using a search filter with combinations of the following keywords: stakeholders, economic profit, financial performance, shareholder wealth, success, failure, risk, risk management, threats, obstacles, leadership, stakeholder relations/dialogue/engagement/involvement, organizational boundaries.[2] Finally, we reviewed the 22 potential cases, assessing whether they were indeed about sustainable innovation attempts, and whether they appeared to contain material empirical for consideration – including information from which we could assess the presence (or absence) of the leadership, boundary spanning and economic alignment. Of these, 6 cases appeared to offer a solid window into the focal phenomena and research question. Furthermore, approximately six cases would provide a sufficiently diverse yet tractable sampling.

For each case, we examined supplementary qualitative and quantitative information from written disclosures produced by given company and its stakeholders (i.e. Internet websites, corporate social responsibility reports, white papers, articles, information

[2] This approach was taken following Eisenhardt's (1989) guidelines indicating purposeful rather than random "selection [to] control extraneous variation" (p. 537).

brochures). This protocol follows prior research, and was employed to strengthen the grounding of theory by triangulation of evidence (Eisenhardt, 1989). This data triangulation, which relates to the use of multiple source of data as defined by Denzin (1978) aims at double-check findings in order to include verification already into data-gathering process, as suggested by Miles and Huberman (1984). Apart from above, the employed method enabled us to conduct an analysis of all information within each case, according to the interpretive approach (Aerts, 2005). Thorough cross-case analysis and search for cross-patterns allowed us to look beyond initial impressions and notice possible existing evidence through multiple lenses. Thus, we managed to sharpen and validate our initial theory (Eisenhardt, 1989; Cerceau et al., 2014).

4. Case analysis

As noted in the preceding section, the research objective was to examine whether and how the theoretical propositions fit concrete organizational realities and occurrences (i.e. the situated phenomena). Thus, unlike some other forms of qualitative research, the following analyses do not culminate in the generation of propositions or hypotheses by observation of novel phenomena. Rather, based on extensive qualitative data on multiple firms in multiple industry and national contexts, we present qualitative summaries of the cases and their fit with (and implications for) the general theory/propositions presented. A synthesis is presented as Table 1.

1. *Allianz Group* case (CS1) (Allianz, 2015; Billington et al., 2009): illustrates successful design, implementation, and adoption of sustainable products in financial services sector. The company's leadership, engagement of different stakeholders and orientation toward economic profits were coupled together in order to create and successfully implement sustainable products. First initiatives in the above area date back to early 2005, when company leadership started to concentrate on the possible implications of climate change for the industry. It led to official, intensive collaboration with the World Wildlife Found (WWF) and wide, multi-level stakeholder dialogue aimed at identifying major risk and opportunities. Its results showed, that investment and insurance decisions of the group could promote shift toward a low-carbon economy, while being profitable at the same time through harnessing new and increasing demand. What followed was the creation of dedicated leadership (core group of people from different business units under supervision of the Allianz Group CEO) and adoption of official climate change strategy promoting bottom-up approach. It resulted in the creation of wide range of green products and services (with direct support of Allianz Climate Solutions and Reinsurance competence and research centers), mitigating the negative effects of climate change and/or taking environmental impact into account. The sustainable oriented products offered by the Allianz ranged from the financing and insuring low-carbon energy products to micro-insurance. Above solutions were widely promoted through various marketing tools (i.e. press events, dedicated campaigns). Presently, Allianz Group offers more than 150 different green products/services, generating revenue of more than 1.3 bn € and reaching more than 4.7 million customers worldwide.
2. *Worldstock.com* case (CS2) (Phills and Denend, 2008): shows unsuccessful attempt of transformation of creativity into sustainable business by leveraging the existing parent company's infrastructure (Overstock.com) – seeking to match surplus and closeout merchandise supply with customer demand, for handicrafts produced by the artists from the Third World. The initiative was started in 2001 by the CEO of Overstock, based on his own studies and personal experience (without building support from other top-level managers and stakeholders), by the creation of a special portal on the company's website. He hoped to create self-sustaining, not-for-profit business model. The launch of Worldstock.com was accompanied by an intensive promotional campaign. Nevertheless, since the beginning the company was facing vast operational challenges connected with the need to provide up-front capital to suppliers (they paid 50% advance) which often had problems with product delivery (i.e. because of personal problems or environmental disasters like flood or drought), logistical problems (artisans from remote village were not able to deliver products), unclear customs procedures (costly shipments from the Middle East significantly increased the prices of final products), lack of systematic market analysis and knowledge about price conditions for different regions, non-existent partnerships with local NGOs and public authorities and not sufficient cost checking procedures. Hence, the company was not able to reach break-even – in spite of the CEO being strongly committed to the idea. Missteps in proper stakeholder identification and engagements, along with a lack of strong orientation toward economic profit appears to have undermined the outcome.
3. *Green Rubber* (CS3) (Huidobro and Woo, 2009) is a firm, that was created in 1996 as a subsidiary of Petra Group, a private conglomerate consisting of several divisions. In this case, leadership, stakeholder engagement and profit orientation together led to successful implementation of a sustainable innovation. It illustrates successful commercialization of cost-effective and environmentally friendly rubber recycling technology (through direct purchase of recycled rubber or licensing agreement enabling partner institution to use special shear meal and reactant, as well as Green Rubber logo on its products), suitable for making a wide range of rubber products, automotive components and consumer durables. In the early 2000s company leadership began to explore wide range of partnerships with highly qualified individuals, businesses (i.e. Timberland), research centers (i.e. Royal Society South-East Asia Rainforest Research) and local governments (i.e. state government of New Mexico) interested in pioneering environmentally sustainable technology applications. To further promote Green Rubber's technological innovation, its CEO had been traveling around the world (together with a team of scientists, stakeholders and senior managers) to access different opinions, visions and knowledge and to persuade consumers and manufacturers about the advantages of rubber recycling. Offered solutions and high quality products made from recycled rubber were also widely promoted through dedicated marketing campaigns. They were all commercialized for profit-making (Green Rubber total cost per ton was around 20–30% lower than virgin rubber). Sales were secured by signing contracts with distributors in Europe, the US and Asia. For example, an agreement with China-based Cathay Resource Ltd (worth $50 million) led to entering and exploring the Chinese market, which is worth approximately US$3 billion annually.
4. *Better Place* (CS4) (Meenakshisundaram and Shankar, 2010; Chafkin, 2014): was an independent start-up firm founded in late 2007. It aimed to replace fossil-fuel based automobiles with inexpensive electric cars and a supporting refueling infrastructure network. The visionary, charismatic, and inspirational leadership of its founder was initially transformative – generating great interest among stakeholders. This allowed the firm immediate (if not premature) access to hundreds-of-millions of dollars from initial investors, top auto-industry executives and CEOs, celebrities including former President Bill Clinton, and national policymakers. Creativity was applied to the business

Table 1
Case studies related to launches of innovative, sustainable products/services.

# &Firm	General idea	Intended creative solution	Facilitating factors (Y – Yes/exist, N – No/Not exist, N.A. – not applicable)														Overall success (S)/Failure (F) &Success/Failure factor	
			Leadership			Boundary spanning (stakeholders involved)						Support for economic goals						
			Visionary, charismatic, inspirational leader (from top mgmt. & beginning)	Sustainability clear part of strategy	Special procedures for generation of new, innovative outputs	Government	Employees	Business partners	Customers	NGOs	Research stakeholders	Clear orientation toward economic profit generation	Support of R&D department	Marketing capability	Legal capability	Technological capability		
1. Allianz Group	Combining long-term economic value-creation in financial services industry with a forward-thinking approach to quantify both direct, as well as indirect effects of climate change	Dedicated, climate friendly infrastructure investment funds (i.e. Allianz Renewable Energy Fund) and green products &services that mitigate the negative effects of climate change (e.g. Green Home Upgrade, Electric/ Hybrid CarTariff)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	S	Combination of strong, simultaneous engagement in all facilitating factors' groups.
2. Worldstock.com	Creation of jobs and enduring improvements in the lives of artisans in the most destitute regions of the world	Creation of designated portal to market handcrafted, environmentally friendly items made by artisans around the world	Y	Y	Y	N	N	Y	Y	N	N	N	N	Y	Y	N	F	Weak ties that span organizational boundaries and weak support for economic profit creation; internal leadership alone insufficient.
3. Green Rubber	Offering high-tech solutions for current environmental and social problems	Offering environmentally friendly technology for transforming rubber waste into wide range of rubber products	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	S	Combination of strong leadership skills in the area of sustainability with ability to build linkages among existing boundaries and profit orientation.
4. Better Place	Revolutionize automobile industry with electric car & key facilitating infrastructure	Provide very inexpensive electric cars, and refueling infrastructure (as service), to mass consumer market	Y	Y	N.A	Y	Y	N	N	N	N	N	N	Y	Y	Y	F	Lack of cost–control, value-chain management/ cooperation, and internal organizational leadership.
5. Mitka	Creation of sustainable commuter mean of transportation	Three-wheel, human powered vehicle with an electric motor	Y	Y	Y	N	Y	Y	N	N	Y	N	Y	N	Y	Y	F	Boundary spanning not properly incorporated into business model with lack of sufficient support for economic goals.
6. Rondeel	Redesign of poultry production in the Netherlands	Creation of animal and environmentally friendly hen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	S	Strong orientation toward environmental, social and economic goals along with engagement of key various players.

model, based on analogical reasoning from the cell phone service industry (i.e. a subscription service, with the firm subsidizing the usage device). Initially, the offering was envisioned with the end-consumer in mind. For example, to overcome consumer range-anxiety, the firm initially targeted locations where distances are limited (e.g. Israel) and would build a supporting network of refueling stations (charging and particularly battery swapping). Additionally, the firm would absorb much (or possibly all) of the typical upfront cost to consumers – the electric car. Additionally, the firm also considered governments' interest in reducing dependency on oil (e.g. a particularly priority of Israel). However, the customers' preferences were ultimately not fully taken into account; for example, the design was not appealing to clients. The project team also neglected competitors, who better addressed customers' needs by providing a hybrid version of well-known cars (Toyota Prius) or charging facilities for any type of electric cars (in particular Coulomb Technologies Inc. in the US). In addition, as market analysis revealed, the Better Place business model was not economically viable in large countries with low density population.

Apart from the above, the subsequent development and implementation of the creative vision, was derided by a lack of productive sustained value-chain management and cost control. Related to this was an "excessively" visionary lead founder; while initially transformative, he ultimately proved hubristic/narcissistic, which directly contributed to poor boundary-spanning and flawed fundamental economics. The rapid rise of the best funded start-up to date, was followed by an even more rapid and spectacular demise – filing for bankruptcy and dissolving in 2013.

5. *Mitka* (CS5) (Berchicci and Yue, 2009) (short for "Individual Mobility concept for short distance" in Dutch) is a three-wheel, human powered vehicle with an electric motor and a maximum speed of 40 km per hour that could cover up to 25 km without recharge. The project developed within a consortium of nine Dutch organizations – two design companies (TNO, Van der Veer Designers), two vehicle manufacturers (Gazelle; Freewiel), a sportswear manufacturer (Nike), Delft University of Technology, a consulting company, a semi-public regional development agency, and a major Dutch insurance company. Innovation and environmental awareness were among top values of coalition and management team. Although customers' needs and lead users were also *declared* as top concerns, extensive feedback from them was not taken into account. The project leaders dismissed customers' different preferences and reluctance toward the three-wheel vehicle saying customers had a "conservative attitude". The general design was not appealing to potential users, who clearly indicated that they preferred a two-wheel vehicle, which is narrower and can be kept at home. Furthermore, the majority of car users did not perceive Mitka as alternative mean of transportation, suitable of every (especially bad) weather conditions. The business development plan did not embrace economic goals. Lack of profit orientation resulted in little cost control and proper financial planning in regards to appropriate pricing and future earnings. As a result, the commercialization of prototypes failed.
6. *Rondeel* (CS6) (Klerkx et al., 2012; Nijhof et al., 2014) is a type of hen housing system brought by owner of the Venco Group, Dutch company, a supplier of poultry systems. The general idea aims to redesign poultry production systems in The Netherlands. This case offers an example of the coupling of sustainable oriented leadership, active stakeholders' engagement and clear profit orientation. Meeting the needs of healthy animals, change of citizen's bad image about animal production, secure the economic income for farmers and diminishing concerns of environmentalists were the main goals of project management and design team. The project leader, after many years of collaboration with the Animal Protection Foundation, had very good experience and relations with this non-governmental organization. The project was developed within consortium of many organizations and experts: building and packing companies, environmentalists, academic and business consultants, consumers, farmers, as well as animal welfare and corporate social responsibility experts. The unusual design and construction attracted a lot of attention and interest from all stakeholders. In particular, the governmental support in the form of projects "The Keeping of Hens" as well as "The quest for the Golden Egg" played a crucial role in attracting various actors and securing initial financing. In order to secure the sale, an agreement with a large supermarket chain has been signed. The appropriate use of marketing tools, especially in area of benchmarking (between "traditional" and "ecological" eggs) and pricing (middle shelf), appears to have been critical in the commercialization success.

5. Discussion

Identification of factors facilitating the translation of creativity into sustainable products in a business organizational context is of particular importance. Such understanding is instrumental to managers as well as policymakers, to effectively limit negative environmental impacts, while providing innovative products/services in a competitive market economy. Furthermore, it should also enable increased awareness of the synergistic possibilities for innovation, both within and beyond the boundaries of the firm. An appropriate engagement of all the factors for transforming creativity into sustainable products or services appears ultimately crucial also from customers' perspective. The availability of social and environmental products and services, which meet clients' expectations and needs are highly desirable to improve organization's brand and mitigate social and environmental concerns. Companies, which are one of the most important actors in creating economic and social reality, heavily influence human well-being directly and via their effect on the natural environment. Thus, firms' approach and activities in area of social and environmental commitment matter, and is crucial for consumers and stakeholders broadly. In the long-term, positive financial performance is a necessary condition for firm survival, which means a firm's social and environmental approach cannot be decoupled from profit orientation.

Based on existing literature, and further examined in the context of six diverse case studies of commercial enterprises, we identified three core components, which appear necessary (yet alone insufficient) conditions for facilitating the transformation of creative ideas into innovative, sustainable products/services. These are: inspirational leadership capable of internal mobilization toward new means/ends and making sustainability a clear part of business strategy and decision making; effective boundary spanning within and beyond the firm in the process of new product/service development and implementation; and a clear focus on economics from the early stages of a novel idea.

The notion that leadership, boundary spanning, and economic alignment stand to serve innovation attempts broadly (e.g. conventional or sustainable) is not surprising. Our argument is more nuanced, and can be summarized as follows. Logically, there are incremental risks/challenges associated with sustainable innovations, for example there is uncertainty and ambiguity related to the relative priority of the "green"/sustainability component. Furthermore, there is something of paradox. On one hand

sustainability needs to be seen and maintained as essential; however once it is:

- there is a greater risk of myopia or otherwise inadequate concern for the financial economics or consumer preferences/behavior;
- there is an increased need for leadership, to protect and shepherd the project through financially focused stakeholders/management (and incentives), and to overcome possible internal resistance or "green"/sustainability stigma;
- the "green"/sustainability card (e.g. wrapping the project in "social value") increases the potential for avoiding financial controls;
- the social appeal of sustainable innovations stand to offer the admiration sought by individuals high in narcissism (e.g. Hmieleski and Lerner, 2016); given the effects of executive narcissism on decision-making and strategic action, the potential problem of inadequate controls is compounded.

Distilling what we see across the multiple cases, it appears that having all of the critical factors in place is particularly key for sustainable innovation attempts. The failures of CS2 (Worldstock.com), CS4 (Better Place) and CS5 (Mitka) suggest that three general factors are all simultaneously necessary, in order to transform creativity into sustainability. From CS2 (Worldstock.com), we observe that strength in one area cannot offset weakness in others. From CS4 (Better Place), we see that strength in one area coupled with a reasonable level of capability in the others is also insufficient. In CS5 (Mitka), we observe that even strength in two areas cannot compensate for a lagging third. Alternatively, the successes show a consistent pattern of strength in all three factors. Specifically, CS1 (Allianz Group), CS3 (Green Rubber) and CS6 (Rondeel), all present a combination of strong, simultaneous engagement of all facilitating factors.

We interpret this as evidence indicating that for sustainable innovation attempts, the co-existence of the three core factors is critical; there is apt to be a higher incremental risk (or steeper penalty) associated with weakness in one (or more) of them. This is illustrated by Fig. 2. Stylized in nature, it visually represents our interpretation. In the figure, though beyond the scope/focus of this paper, we also allude to conventional innovation for the purpose of illustration. We do so to show that we are not suggesting the importance of aforementioned factors is unique to sustainable innovations (and in line with the aforementioned logic on incremental threats to sustainable innovations).

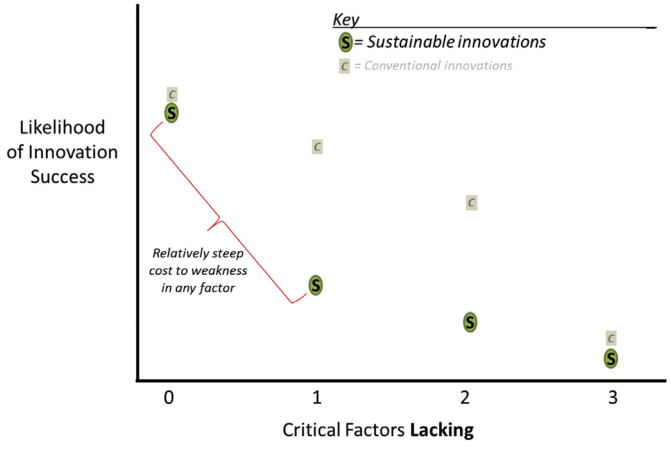

Fig. 2. Interpretation of critical factors influence on chance of successful innovation.

An advantage of our multiple case study approach is that we can observe evidence (supporting or refuting) the general theory put forth. We find evidence consistent with our theory, replicated across both successful and unsuccessful cases. Furthermore, relationships between the facilitating factors likely evolve in parallel to the evolution of innovative products and services, and to the ongoing invention of new organizational practices. Thus, previously unidentified, impassable boundaries can occur. The Better Place case for example, illustrates important and not necessarily positive ultimate inter-linkages between the three general facilitating factors. In particular, it illustrates a caution about excessively transformational leaders – whose vision, charisma, and ability to inspire are associated with a hubris/narcissism and ultimately yield counterproductive individual and organizational behavior. The same may be also true for boundary spanning and orientation toward economic profit; too strong focus may be actually destructive for promising innovative ideas in the area of sustainable products/services (e.g. by being spread too thin, or too uncertain/risky for desired financial outcomes). A balanced symbiosis between the three identified components seems to be essential to release potential synergies and ultimately create additional value.

The six cases generally show that companies with a vast and diversified arsenal of dedicated (tangible and intangible) resources and the ability to properly stimulate value-relevant information spanning, are the firms who can achieve positive results in transforming creativity into sustainable products and services.

6. Conclusions

This paper contributes to literature linking creativity and sustainability. It draws on extant research, followed by analysis of multiple potentially co-existing factors (including a concurrent focus on economic profit) from multiple case studies across industries and types of firms (e.g. from large multinational financial service firms, to start-up firms manufacturing electric cars). We find evidence indicating three factors are simultaneously necessary to successfully transform creative ideas into sustainable products/services by commercial organizations. These are: inspirational and sustainable oriented leadership, effective boundary spanning, and clear profit orientation. Furthermore, there is a potential steep discounting of success prospects if any factor is off. In essence, this is consistent with configurational views; moreover, it suggests that even with particular strength in one or more areas, no configuration is apt to work until all critical factors are in place.

This has important implications for corporate managers, investors and policymakers. For firm managers, transforming creativity into sustainability appears to require a spectrum of concurrent deliberate and precise activities occurring at different organizational levels, and spanning beyond the boundaries of the firm. For investors, our work suggests that financial profitability related to creative sustainable solutions must neither be a decoupled afterthought, nor can it obstruct sustainability being a clear part of strategy or creating and sharing non-financial returns to stakeholders. Firms and investors should take into account additional internal and external dimensions, as well as proper balance between them. Finally, for environmental policymakers, our findings suggest the importance of creating a varied palette of incentives and support mechanisms, from leadership education to whole value chain synergies (i.e. green boundary spanning certification). This would serve to increase the likelihood of successful innovation implementation, and may also serve to increase the net-impact and or accelerate the implementation of innovative and sustainable products/services.

Like all empirical research, the methodology employed in this paper has limitations. Our sample was limited to six case studies. Use of a greater number of cases, involving an even more

heterogeneous group of firms and industries, would further add to the generalizability of our analysis. Many of the cases also involved some self-reported disclosures provided by the firms and their stakeholders. Thus, there is a risk of a positive skew and the potential omission of other important information. None the less, relatively consistent support for the theory was found in both the successes and failures. Thus while the exact level of the various factors/activities remains a question for future research, our findings suggest that the relative presence of the factors (even if subject to some under/over reporting) does indeed distinguish between the successful and unsuccessful attempts. On a related note, the observed overall success or failure of an intended creative solution was considered based on implementation and market survival. Success or failure could be considered from a more fine-grained perspective, for example by quantitative data and dedicated financial indicators (i.e. sales, losses, return on assets, total shareholder return). However, the utility and comparability of such numbers would be limited, given radical heterogeneity in firm size, scope, strategy, industry, and in the attempted innovations themselves. Finally, we only analyzed cases of projects undertaken after 2007, which marks the beginning of global financial crisis. From a policy and evidence-based praxis perspective, how well our theory fits organizational phenomena of the 20th century is limited concern. However, the stability of our general theory in the post-crisis 21st century is inherently a question for future research. The general propositions and findings presented here, offer a contextually tested basis for future research and theory building/refinement.

This research suggests several important areas for future research. First, because our empirical sample focused on firms in developed markets, there is the opportunity for future research examining the extent to which our theory applies to firms in developing markets. The same holds for future research examining non-commercial organizations. Second, we examined a finite set of factors, theorized to influence the relationship between creativity and sustainability. Certainly other firm characteristics and contextual factors may also affect the overall chances of success for sustainable products/services.

Our use of multiple cases across various contexts (e.g. industry, country) and types of firms (e.g. from *de novo* start-ups, to manufacturing subsidiaries, to global multinationals) suggests a general applicability of our theory; however further research is warranted. The opportunity remains for other research examining what/how additional factors may influence the transformation of creativity into sustainability in an organizational context. Overall, the multiple case study approach involves the inherent tradeoff of a broader general aperture, relative to a more detailed view within a particular organization and industry. Thus, future in-depth studies (e.g. involving an imbedded researcher) focused on a single firm can provide additional insights on the topic. Such studies can further refine our propositions, as well as observe dynamics of how critical factors interact, measure the relative contribution of any factor, and/or seek to specify the right “recipe”.

References

Adler, P.S., Kwon, S.W., 2002. Social capital: prospects for a new concept. Acad. Manag. Rev. 27 (1), 17–40.

Aerts, W., 2005. Picking up the pieces: impression management in the retrospective attributional framing of accounting outcomes. Acc. Organ. Soc. 30, 493–517.

Aldrich, H., Herkel, D., 1977. Boundary spanning roles and organization structure. Acad. Manag. Rev. 2, 217–230.

Allianz, 2015. From Alternative Energy to Zero Emissions. https://www.allianz.com/v_1395826334000/media/responsibility/documents/2013_Allianz_Climate_Booklet_EN.pdf (accessed 08.03.15).

Amabile, T.M., 1988. From individual creativity to organizational innovation. In: Gronhaug, K., Kaufmann, G. (Eds.), Innovation: a Cross-disciplinary Perspective. Norwegian University Press, Oslo, Norway.

Amabile, T.M., 1996. Creativity in Context. Westview Press, Boulder, CO.

Amabile, T.M., 1997. Entrepreneurial creativity through motivational synergy. J. Creative Beh 31, 18–26.

Berchicci, L., Yue, T., 2009. MITKA: Sustainable Commuter Transport? RSM Case Development Centre.

Billington, C., Ionescu-Somers, A., Braga, T., 2009. Feeling the Heat: Allianz and WWF Pushing an Industry towards Climate Change Action. IMD.

Bonner, J., Ruekert, R., Walker Jr., O., 2002. Upper management control of new product development projects and project performance. J. Prod. Innov. Manag. 19 (3), 233–245.

Boons, F., Lüdeke-Freund, F., 2013. Business models for sustainable innovation: state-of-the-art and steps towards a research agenda. J. Clean. Prod. 45, 9–19.

Bossink, B., 2007. Leadership for sustainable innovation. Int. J. Technol. Manag. Sustain. Dev. 6 (2), 135–149.

Bullinger, A.C., Neyer, A.K., Rass, M., Moeslein, K.M., 2010. Community-based innovation contests: where competition meets cooperation. Creativity Innov. Manag. 19, 290–303.

Cerceau, J., Mat, N., Junqua, G., Lin, L., Laforest, V., Gonzalez, C., 2014. Implementing industrial ecology in port cities: international overview of case studies and cross-case analysis. J. Clean. Prod. 74, 1–16.

Chafkin, M., 2014. A Broken Place: the Spectacular Failure of the Startup that Was Going to Change the World. Fast Company Magazine. http://www.fastcompany.com/3028159/a-broken-place-better-place (accessed 22.04.15).

Chang, S., Jia, L., Takeuchi, R., Cai, Y., 2014. Do high-commitment work systems affect creativity? A multilevel combinational approach to employee creativity. J. Appl. Psychol. 99 (4), 665–680.

Chesbrough, H., 2010. Business model innovation: opportunities and barriers. Long Range Plan. 43, 354–363.

De Brentani, U., Kleinschmidt, E., 2004. Corporate culture and commitment: impact on performance of international new product development programs. J. Prod. Innov. Manag. 21 (5), 309–333.

Denzin, N.K., 1978. The Research Act: a Theoretical Introduction to Sociological Methods. McGraw-Hill, New York.

Doll, W.J., Hong, P., Nahm, A., 2010. Antecedents and outcomes of manufacturability in integrated product development. Int. J. Oper. Prod. Manag. 30 (8), 821–852.

Dul, J., Ceylan, C., 2014. The impact of a creativity-supporting work environment on a firm's product innovation performance. J. Prod. Innov. Manag. 31 (6), 1254–1267.

Dyer, J.H., Chu, W., 2003. The role of trustworthiness in reducing transaction costs and improving performance: empirical evidence from the United States, Japan, and Korea. Organ. Sci. 14 (1), 57–68.

Eisenhardt, K.M., 1989. Building theories from cases. Acad. Manag. Rev. 14 (4), 532–550.

Elliot, E.A., Nakata, C., 2013. Cross-cultural creativity: conceptualization and propositions for global new product development. J. Prod. Innov. Manag. Suppl. 30, 110–125.

Ernst, H., 2002. Success factors of new product development: a review of the empirical literature. Int. J. Manag. Rev. 4 (1), 1–40.

Foxon, T., Pearson, P., 2008. Overcoming barriers to innovation and diffusion of cleaner technologies: some features of sustainable innovation policy regime. J. Clean. Prod. 16S1, 148–161.

Gartner, W.B., 1990. What are we talking about when we talk about entrepreneurship? J. Bus. Vent 5 (1), 15–28.

Gilson, L.L., 2008. Why be creative: a review of the practical outcomes associated with creativity at the individual, group, and organizational levels. In: Zhou, J., Shalley, C.E. (Eds.), Handbook of Organizational Creativity. Erlbaum, New York, NY, pp. 303–322.

Goldenberg, J., Mazursky, D., 2002. Creativity in Product Innovation. Cambridge University Press.

Grönroos, C., 2008. Service logic revisited: who creates value? And who co-creates? Eur. Bus. Rev. 20 (4), 298–314.

Gumusluoglu, L., Ilsev, A., 2009. Transformational leadership and organizational innovation: the roles of internal and external support for innovation. J. Prod. Innov. Manag. 26, 264–277.

Heskett, J.L., Jones, T.O., Loveman, G.W., Sasser, W., Earl, J., Schlesinger, L.A., 2008. Putting the service-profit chain to work. Harv. Bus. Rev. 86 (7), 118–129.

Hmieleski, K., Lerner, D.A., 2016. The dark triad and nascent entrepreneurship: An examination of unproductive versus productive entrepreneurial motives. J. Sm. Bus. Mgmt. Forthcoming.

Hsiao, R.L., Tsai, D.H., Lee, C.F., 2012. Collaborative knowing: the adaptive nature of cross-boundary spanning. J. Manag. Stud. 49, 463–491.

Huidobro, M.F., Woo, C., 2009. Green Rubber: the Revolution of the Rubber Recycling Business. Asia Case Research Centre, The University of Hong Kong.

Hunt, R.A., 2013. Entrepreneurial tweaking: Technology diffusion through secondary inventions and design modifications by start-ups. Eu. J. Innov. Mgmt 16 (2), 148–170.

Jung, I.J., Chow, C., Wu, A., 2003. The role of transformational leadership in enhancing organizational innovation: hypotheses and some preliminary findings. Leadersh. Quart. 14, 525–544.

Khurana, A., Rosenthal, S., 1997. Integrating the fuzzy front end of new product development. Sloan Manag. Rev. 38 (2), 103–120.

Klerkx, L., van Bommel, S., Bos, B., Holster, H., Zwartkruis, J.V., Aarts, N., 2012. Design process outputs as boundary objects in agricultural innovation projects: functions and limitations. Agric. Syst. 113, 39–49.
Koellinger, P., 2008. The relationship between technology, innovation, and firm performance: empirical evidence from e-business in Europe. Res. Policy 37, 1317–1328.
Kohtamäki, M., Partanen, J., Möller, K., 2013. Making a profit with R&D services — the critical role of relational capitalB2B Service Networks and Managing Creativity in Business Market Relationships. Ind. Mark. Manag. 42 (1), 71–81.
Koźmiński, A.K., 2004. Zarządzanie w warunkach niepewności. Podręcznik dla zaawansowanych. PWN, Warszawa.
Larson, A.L., 2000. Sustainable innovation through an entrepreneurship lens. Bus. Strat. Environ. 9, 304–317.
Lerner, D.A., 2016. Behavioral disinhibition & nascent venturing: relevance and initial effects on potential resource providers. J. Bus. Vent. 31 (2), 234–252.
Levinthal, D.A., March, J.G., 1993. The myopia of learning. Strat. Manag. J. 14, 95–112.
Lombardi, D.R., Lyons, D., Shi, H., Argawal, A., 2012. Industrial symbiosis, testing the boundaries and advancing knowledge. J. Ind. Ecol. 16, 2–7.
Lozano, R., 2014. Creativity and organizational learning as means to foster sustainability. Sustain. Dev. 22, 205–216.
McMullen, J.S., Shepherd, D.A., 2006. Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur. Acad. Manag. Rev. 31 (1), 132–152.
Meenakshisundaram, R., Shankar, B., 2010. Business Model Innovation by Better Place: a Green Ecosystem for the Mass Adoption of Electric Cars. IBS Center for Management Research.
Miles, M.B., Huberman, A.M., 1984. Qualitative Data Analysis. Sage, Beverly Hills.
Mishra, A., Shah, R., 2009. In union lies strength: collaborative competence in new product development and its performance effects. J. Oper. Manag. 27 (4), 324–338.
Nijhof, A., Janssen, R., Mager, S., 2014. The Case of Rondeel Eggs: the Quest for the Golden Egg. Nyenrode Business Universiteit, Licence to Grow.
Parke, M.R., Seo, M., Sherf, E.N., 2014. Regulating and facilitating: the role of emotional intelligence in maintaining and using positive affect for creativity. J. Appl. Psychol. 1–18.
Phills, J., Denend, L., 2008. Overstock.com and Worldstock. Stanford Business School.
Prahalad, C.K., Ramaswamy, V., 2004. Co-creation experiences: the next practice in value creation. J. Interact. Mark. 18 (3), 5–14.
Rickards, T., Moger, S., 2000. Creative leadership processes in project team development: an alternative to Tuckman's stage model. Br. J. Manag. 11, 273–283.
Schumpeter, J.A., 1934. The Theory of Economic Development. Harvard University Press, Cambridge, MA.
Scopelliti, I., Cillo, P., Busacca, B., Mazursky, D., 2014. How do financial constraints affect creativity? J. Prod. Innov. Manag. 31 (5), 880–893.
Shrivastava, P., 1995. The role of corporations in achieving corporate sustainability. Acad. Manag. Rev. 20 (4), 936–960.
Slijkhuis, J.M., Rietzschel, E.F., Van Yperen, N.W., 2013. How evaluation and need for structure affect motivation and creativity. Eur. J. Work Organ. Psychol. 22 (1), 15–25.
Smith, K.G., DiGregorio, D., 2002. Bisociation, discovery and the role of entrepreneurial action. In: Hitt, M.A., Ireland, R.D., Camp, S.M., Sexton, D.L. (Eds.), Strategic entrepreneurship: Creating a new mindset. Blackwell Publishers, Oxford, UK, pp. 130–150.
Smith, R.E., Wright, W.F., 2004. Determinants of customer loyalty and financial performance. J. Manag. Acc. Res. 16, 183–205.
Søndergaard, H., 2005. Market-oriented new product development. How can a means-end chain approach affect the process? Eur. J. Innov. Manag. 8 (1), 79–90.
Song, M., Dröge, C., Hanvanich, S., Calantone, R., 2005. Marketing and technology resource complementarity: an analysis of their interaction effect in two environmental contexts. Strat. Manag. J. 26, 259–276.
Sternberg, R.J., 2012. The assessment of creativity: an investment-based approach. Creat. Res. J. 24, 3–12.
Su, Z., Xie, E., Hong, L., Wei, S., 2013. Profiting from product innovation: the impact of legal, marketing, and technological capabilities in different environmental conditions. Mark. Lett. 24 (3), 261–276.
Swink, M., 1999. Threats to new product manufacturability and the effects of development team integration processes. J. Oper. Manag. 17 (6), 691–709.
Tang, C., Shang, J., Naumann, S.E., von Zedtwitz, M., 2014. How team identification and expertise identification Affect R&D Employees' creativity. Creativity Innov. Manag. 23 (3), 276–289.
Theoharakis, V., Sajtos, L., Hooley, G., 2009. The strategic role of relational capabilities in the business-to-business service profit chain. Ind. Mark. Manag. 38 (8), 914–924.
Tortoriello, M., Karckhardt, D., 2010. Activating cross-boundary knowledge: the role of Simmelian ties in the generation of innovations. Acad. Manag. Rev. 53, 167–181.
Tsai, W.P., 2001. Knowledge transfer in intraorganizational networks: effects of network position and absorptive capacity on business unit innovation and performance. Acad. Manag. J. 44, 996–1004.
Tushman, M.L., 1977. Special boundary roles in the innovation process. Adm. Sci. Q. 22, 587–605.
van Kleef, J.A.G., Roome, N.J., 2007. Developing capabilities and competence for sustainable business management as innovation: a research agenda. J. Clean. Prod. 15, 38–51.
Vorhies, D.W., Morgan, N.A., 2005. Benchmarking marketing capabilities for sustainable competitive advantage. J. Mark. 69 (1), 80–94.
Ward, T.B., 2004. Cognition, creativity, and entrepreneurship. J. Bus. Ventur. 19 (2), 173–188.
Wetzel, R., van Gorp, L., 2014. Eighteen shades of grey? An explorative literature review into the theoretical flavours of organizational change research. J. Organ. Change Manag. 27, 115–146.
Yin, R.K., 1994. Case Study Research: Design and Methods. Sage, Newbury Park, CA.
Yin, R., 2003. Case Study Research. Sage Publications, Beverly Hills, CA.
Yunus, M., Moingeon, B., Lehmann-Ortega, L., 2010. Building social business models: lessons from the Grameen experience. Long. Range Plan. 43, 308–325.
Zhou, J., Shalley, C.E., 2008. Expanding the scope and impact of organizational creativity research. In: Zhou and Shalley (Ed.), Handbook of Organizational Creativity. Erlbaum, New York, NY, pp. 347–368.