

Middlesex University Research Repository

An open access repository of

Middlesex University research

<http://eprints.mdx.ac.uk>

Brennan, Geraldine and Tennant, Mike (2018) Sustainable value and trade-offs: exploring situational logics and power relations in a UK brewery's malt supply network business model. *Business Strategy and the Environment*, 27 (5) . pp. 621-630. ISSN 0964-4733 [Article] (doi:10.1002/bse.2067)

Final accepted version (with author's formatting)

This version is available at: <https://eprints.mdx.ac.uk/22660/>

Copyright:

Middlesex University Research Repository makes the University's research available electronically.

Copyright and moral rights to this work are retained by the author and/or other copyright owners unless otherwise stated. The work is supplied on the understanding that any use for commercial gain is strictly forbidden. A copy may be downloaded for personal, non-commercial, research or study without prior permission and without charge.

Works, including theses and research projects, may not be reproduced in any format or medium, or extensive quotations taken from them, or their content changed in any way, without first obtaining permission in writing from the copyright holder(s). They may not be sold or exploited commercially in any format or medium without the prior written permission of the copyright holder(s).

Full bibliographic details must be given when referring to, or quoting from full items including the author's name, the title of the work, publication details where relevant (place, publisher, date), pagination, and for theses or dissertations the awarding institution, the degree type awarded, and the date of the award.

If you believe that any material held in the repository infringes copyright law, please contact the Repository Team at Middlesex University via the following email address:

eprints@mdx.ac.uk

The item will be removed from the repository while any claim is being investigated.

See also repository copyright: re-use policy: <http://eprints.mdx.ac.uk/policies.html#copy>

1 **Sustainable value and trade-offs: exploring situational logics and power relations**
2 **in a UK brewery's malt supply network business model¹**

3 Dr Geraldine Brennan^{1,2} & Dr Mike Tennant²

4 ¹ Middlesex University Business School, Centre for Enterprise & Economic Development Research (CEEDR), London NW4 4BT, UK

5 ² Imperial College London, Centre for Environmental Policy, Faculty of Natural Sciences, London SW7 1NA, UK

6 * Corresponding author: g.brennan@mdx.ac.uk

7
8

9 Conceptualising firms from a business ecosystem, value-, or supply- network perspective captures the
10 boundary-spanning nature of value creation. However, the relationship dynamics that enable or inhibit
11 sustainable value creation, as well as the understanding of how to resolve trade-offs in sustainable
12 supply chain management (SSCM), need to be better understood. To explore these, we present a
13 comparative case study of how situational logics and power relations are embedded in business models
14 within a UK brewer and its malt supply chain. The exploratory case illustrates how network-centric
15 business model innovation (BMI) resolves the trade-off between economic and environmental value
16 through the prioritisation of sustainability-related 'cultural' resources. These findings suggest that
17 organisations seeking to implement sustainable supply networks need to pay greater attention to how
18 they use business model innovation to institutionalise *situational logics* that enable or inhibit
19 sustainable value creation and resolve trade-offs.

20 **Key words:** Margaret Archer, resource configurations, sustainable business model innovation, trade-
21 offs, situational logics

22
23

¹11/09/2017 Accepted for Publication by *Business Strategy & Environment – Special Issue Delivering Sustainability in Supply Networks* Forthcoming 2017, Guest Editors: Emmanuel Josserand, Sarah Kaine and Natalia Nikolova, UTS Business School, University of Technology Sydney, Australia.

24 **1. Introduction**

25 Business ecosystems (Moore, 1996), value networks (Allee, 2000), supply chain management (SCM)
26 (Schaltegger & Burritt, 2014), supply networks (Braziotis et al. 2013), and business model concepts,
27 variously defined, all emerged in recognition that firms are embedded in networks of exchange
28 relationships (Normann & Ramirez, 1993). A firm's activities are interdependent with its partners and
29 value creation is boundary-spanning (Zott et al. 2011; Zott & Amit, 2010; Gold et al. 2010; Dyer &
30 Singh 1998; Lavie, 2006). Despite the plurality of these conceptualizations a key commonality is the
31 importance of *relationships* between actors at individual, organisational, inter-organisational and
32 societal levels (Lepak et al. 2007).

33 Firms are influential actors that can act as catalysts or barriers to addressing 'unsustainability' given
34 their ability to change their normative settings, generate concrete actions and actively influence
35 stakeholders (Rauter et al. 2017). Business models *for* sustainability are viewed as a mechanism for
36 firms to address the root causes of unsustainability, creating synergies between economic,
37 environmental, and social value or delivering 'common good' value (Dyllick & Muff, 2016;
38 Schaltegger et al. 2016). However, the scale and urgency of sustainability challenges warrant
39 organisations taking relational, or 'systemic', approaches given that no single firm can address
40 unsustainability (Roome & Louche, 2016).

41 Despite the burgeoning literature on sustainable business models (SBM) and SSCM exploring
42 sustainable value creation (Evans et al. 2017; Bocken et al. 2014; Pagell & Shevchenko, 2014; Boons
43 & Lüdeke-Freund, 2013; Gold et al. 2010), few papers address how different supply chain business
44 models institutionalise situational logics and related power relations nor how these business models
45 impact on sustainable value creation and trade-offs. Questions also remain regarding the relationship
46 dynamics that enable or inhibit value creation (Roome & Louche, 2016; Zott & Amit, 2010) and how
47 to resolve sustainability-related trade-offs (Esafhbodi et al. 2016; Pagell & Shevchenko, 2014;
48 Tregidga et al. 2013; Hahn & Figge, 2011).

49 To address these gaps and explore the "*the complex interrelations which arise when proactive firms*
50 *engage in further reaching supply chain integration*" (Gold et al. 2010:240), we present an exploratory
51 case study of how Adnams, a UK brewer and sustainability pioneer, created novel forms of value by

52 revising its malt business model from a hierarchical supply chain to a supply network that prioritises
53 environmental value creation and increased integration through direct relationships.

54 We begin by reviewing the literature on value creation, business models, SSCM and explore the
55 challenges, particularly sustainability trade-offs, associated with creating sustainable value. We outline
56 our use of Margaret Archer's sociological work (1995) to provide insights into the value creation
57 process, extending ideas associated with the resource-based view (RBV) and resource-dependency
58 theory (RDT) (Peteraf & Barney, 2003; Pfeffer & Salancik, 1978). We conclude with a discussion of
59 the implications for SSCM, SBM and sustainability trade-offs literature and demonstrate the value of
60 using Archer's (1995) lens to illuminate how *complementary logics* can enable the creation of
61 sustainable value and resolve *contingent trade-offs*.

62 **2. Value and Sustainable Value Creation**

63 The notion of value is pluralistic and often contested with different meanings and interpretations held
64 by different actors (den Ouden, 2012). The delivery of economic value to shareholders tends to be a
65 dominant business concern, but unpacking the process of economic value creation is not well
66 understood despite being a focus of strategic management research (Lepak et al. 2007). Moreover,
67 economic value creation may often destroy value for legitimate stakeholders (Stubbs & Cocklin, 2008;
68 Roome & Louch, 2016). Firms concerned with sustainability seek win-wins, creating economic value
69 whilst creating a positive impact and value for stakeholders (Laszlo et al. 2005; Schaltegger et al.
70 2016). Broader notions of value and value creation at the firm and wider societal levels are critical to
71 addressing unsustainability (Stubbs & Cocklin, 2008; Upward & Jones, 2016). However, trade-offs
72 between different types of value represent a formidable challenge (Pagell & Shevchenko, 2014;
73 Tregidga et al. 2013; Hahn & Figge, 2011).

74

75 **2.1. Value creation through creative (re-)combination of resources**

76 While the literature shows that the process of value creation is often contested, a basic premise is that
77 value is created when resources are brought together by organisations in such a way that there is a
78 demand for the resultant product or service on the open market (Bowman & Ambrosini, 2000).
79 Drawing from Archer (1995), the value creation process can be described as follows:

- 80 • Cultural and structural resources are contingently distributed between firms;
- 81 • Access to different resources gives a firm bargaining power and negotiating strength in
- 82 relationships;
- 83 • Differential negotiating strength places partners in situational logics;
- 84 • Different types of situational logics result in particular types of value being created and
- 85 different trade-offs being considered.

86

87 **Cultural and structural resource distribution between firms**

88 Value creation is determined by the multiple types of resources involved and how they are combined.
89 Organisations have both structural and cultural resources (Archer, 1995): structural resources include
90 rules such as laws, contracts and business models; and tangible assets such as input factors of
91 production (ibid, 108); cultural resources come from “the world of ideas” (ibid, 179) and include
92 languages, ideologies, theories, stories (Stubbs & Cocklin, 2008, Bowman & Ambrosini, 2000) and
93 values (Harris & Crane, 2002; Linnenluecke & Griffith, 2010; Breuer & Lüdeke-Freund, 2017).
94 Sustainability-related concepts, values and ethos are seen here as cultural resources.

95 Sustainable value is created when tangible factors of production (structural resources), including
96 processes, business models, products, services, and infrastructure, are brought into particular
97 combinations with *ideas* of sustainability impact and sustainability *values* (cultural resources).
98 Sustainability cultural resources include important concepts such as net positive benefits and the
99 creation of ‘common good’ value (Dyllick & Muff, 2016) and sustainability values, which have
100 recently been recognised as pivotal to sustainable BMI (Breuer & Lüdeke-Freund, 2017).

101 Cultural resources ideologically condition how structural resources may be used and effect their
102 diffusion into society, but on its own says nothing about how easy diffusion is. Linking the cultural-
103 structure distinction with Archer’s conceptualisation of power and situational logics provides a novel
104 means to address overly-optimistic assumptions that sustainability ideas and values (cultural
105 resources) will naturally diffuse (Fuchs et al., 2016; Harris & Crane, 2002), as well as the constraints
106 of institutionalising sustainability which are persistently overlooked (Randles & Laasch, 2016).

107

108 **Bargaining Power and Negotiating Strength**

109 An organisation's bargaining power reflects the totality of the resources they have access to (Archer,
110 1995; Pfeffer & Salancik, 1978). Organisations that can access a greater amount of relevant resources
111 for use in a project have more bargaining power than those with less access. The distribution of
112 resources across organisations leads to differentials in bargaining power and, in turn, differential
113 negotiating strengths. These may range from total dependency of one organisation on another to
114 relationships that are more equal and mutually-beneficial.

115 The type of project being undertaken determines which resources are important to the value creation
116 process, impacting a firm's bargaining power and negotiating strength. An organisation in possession
117 of unique sustainability cultural resources would have greater negotiating strength than a partner that
118 lacked such access and wanted to take advantage of those resources; but not with a partner that was
119 uninterested in forwarding sustainability.

120 **Situational Logics and Value Creation**

121 A firm's business model brings together partners with idiosyncratic resources (Dyer and Singh, 1998)
122 providing opportunities to create value without any one partner owning all the resources (Gold et al.
123 2010; Lavie, 2006). Depending on the types of resources brought to bear and differential negotiating
124 strengths, partners find themselves in "situational logics" (Archer, 1995: 217 & 304) that, in part,
125 determine the outcomes of their negotiations. These situational logics may take a variety of forms, but
126 two are of interest to the process of sustainable value creation.

127 *Contingent complementarity* occurs where resources are brought together that are not necessary for a
128 relationship, but can add novel value if combined successfully, similarly to Dyer & Singh's
129 "*idiosyncratic interfirm relationships*" (1998, their emphasis). Value accrues to both partners
130 addressing wider sustainability goals, as determined by the cultural resources brought to bear. Novel
131 types of value and solutions add further societal value as they demonstrate what is possible and provide
132 a common pool resource that can be drawn upon by others seeking to embark on similar projects. For
133 example, when a company such as Patagonia shares its innovations sustainability-oriented resources
134 are diffused into society through the creation of a common pool of relevant practice.

135 In contrast, partners can find themselves in a situational logic characterised by *contradictory*

136 *incompatibilities*. Value may be forcibly created through the imposition of resource configurations as
137 a weaker partner's resources are appropriated in service of a stronger organisation. Here value accrues
138 to the organisation that controls the relationship; the organisation with weaker negotiating strength
139 must choose between current beliefs and ways of doing things, and new ones being imposed. The value
140 subsequently created is a reproduction of the stronger partner's cultural resource base (Archer,
141 1995:240) and not novel, unlike that created under contingent complementarity. Here, cultural
142 resources are appropriated by the stronger partner, a relevant example being natural capital valuation,
143 where the use of nature by business is strongly conditioned by capitalist ideology.

144 **2.2. Sustainable Value and Trade-Offs**

145 The firm is a nexus of interactions from which value is created, with the relationships involved being
146 mediated by business models (Zott & Amit, 2010). Business models and supply chains or networks
147 have conceptual overlap due to their preoccupation with relationships between actors and value
148 creation activities (Lüdeke-Freund et al. 2016). Different business models, in turn, institutionalise
149 certain resource configurations, bring partners together with differing access to resources and place
150 them in particular power relations and situational logics.

151
152 Trade-offs in sustainable value creation stem from the nature of the resources being combined and the
153 situational logics that characterise relationships (Archer, 1995). While the situational logic of
154 *contingent complementarity* may give rise to trade-offs when choosing between seemingly equally
155 good combinations of cultural and structural resources, the situational logic of *contradictory*
156 *incompatibilities* will always result in trade-offs that compromise some aspect of the triple-bottom
157 line.

158 There is an inherent tension between the societal aspirations of sustainability and firm level goals.
159 Trade-offs will always occur when organisations promote their own economic growth at the expense
160 of environmental and social goals (Tregidga et al. 2013; Hahn & Figge, 2011). While some view trade-
161 offs between economic and non-economic performance as inevitable (Esfahbodi et al. 2016; Seuring
162 & Muller, 2008) others see some promise in achieving truly sustainable supply chains if these trade-
163 offs can be resolved (Pagell & Shevchenko, 2014).

164 Freeman (2010) notes that stakeholder interests are always conjoined and organisations should reframe
165 their ideas about sustainability rather than accept trade-offs that result in sub-optimal outcomes for
166 shareholders and stakeholders. While little progress has been made in this area (Pagell & Shevchenko,
167 2014), some argue that trade-offs can be resolved by confronting the dominant economic-first
168 paradigm through ‘changing the rules of the game’ (Beckmann et al. 2012; Dyllick & Muff, 2016) or
169 using different theories to rework the assumptions of SSCM (Matthews et al. 2016).

170 Following Archer (1995) trade-offs in sustainable value creation stem from the resources being
171 combined and the situational logics that characterise relationships. They may be either necessary and
172 insurmountable, or contingent and able to be resolved:

- 173 ● *necessary trade-offs* occur when cultural resources (sustainability ideas) and structural
174 resources (process, product or service, business model) cannot be coherently combined (for
175 example, the idea of “sustainable tobacco”).
- 176 ● *contingent trade-offs* happen when cultural and structural resources can be coherently
177 combined, but net-positive sustainability benefits are not realised. For example, when firms do
178 not have access to sufficient sustainability cultural resources to reimagine their value
179 proposition (Freeman, 2010); or as the less powerful partner in a situational logic their
180 sustainability mission may be appropriated to other ends.

181 Reconfiguring a hierarchical supply chain, characterised by a dominant situational logic, into a supply
182 network creates multiple direct relationships between partners activating multiple situational logics
183 and inter-related power relations. Introducing new situational logics and power relations through
184 networked relationships may result in competition between logics, increasing opportunities to exploit
185 new logics, resolve trade-offs and create value. Thus, when network-centric approaches to business
186 models are asserted as necessary to address sustainability challenges (Boons & Lüdeke-Freund, 2013;
187 Evans et al. 2017) this is partly attributable to the increased opportunities to influence partners
188 comparatively to hierarchical supply chain business models.

189

190

191 **2.3. Summary**

192 We have argued that sustainable value may be created when sustainability-related cultural resources
193 condition structural resources (Archer, 1995) resulting in economic value creation potential for the
194 firm and wider net-positive benefits. However, sustainability trade-offs occur when cultural resources,
195 which condition structural resources, are inappropriate or insufficient (necessary trade-offs), or when
196 situational logics work against a firm attempting to create sustainable value (contingent trade-offs
197 which have the potential to be resolved). Despite the expanding SBM, SSCM and sustainability trade-
198 offs literature few publications explicitly deal with how different supply chain business models
199 institutionalise situational logics and power; or the degree to which it is possible to resolve
200 sustainability related trade-offs.

201 **3. Method**

202 Case study research enables the development of contextually sensitive knowledge and is suited to
203 studying context-dependent phenomenon like sustainability (Roome & Louche, 2016). This malt
204 business model case is drawn from a larger study exploring how a family brewer sought to influence
205 sustainable value creation opportunities within their business ecosystem.

206 Established in 1872, Adnams is a mid-sized UK regional brewer that committed in the late 1990s to
207 embed sustainability into their strategy and are recognised as an epitome of a modern sustainable
208 brewery (BBPA, 2013). Adnams' way of doing business has been underpinned by nine values relating
209 to this commitment including: community, healthy environment, quality, long-term success, diversity
210 and ensuring integrity in all their activities (Turnbull & Verity, 2011). Over 2013-2014 Adnams
211 refined these into five principles: 1) Always Evolving 2) Pride & Passion 3) Integrity in All We Do 4)
212 Refreshingly Responsible 5) Sparkling Individuality (Adnams, 2014).

213 Adnams represent a paradigmatic case (Flyvberg, 2006) of an organisation that has sought to embed
214 sustainability in their practices and decision-making and their malt business model innovation
215 represents a paradigmatic early example of longer-term contracts.

216
217

218 **3.1. Data Collection**

219 This case study is based on seven of 42 in-depth semi-structured interviews conducted either face-to-
220 face or via Skype during 2013-2014, and ranging from 35-52 minutes. They include four interviewees
221 from Adnams (S005, S006, S009 and S010) and one representing each organisation from the malt
222 supply chain: Maltster (R018), Merchant (R029) and Grower (R058).

223 Participants were targeted due to their seniority or direct involvement in the supply chain, making them
224 knowledgeable of the business model relationships (Harris & Crane, 2002). Ensuring at least one
225 interviewee from each organisation made it possible to uncover a range of perspectives (Baker &
226 Edwards, 2012) and perceptions of value (Laszlo et al. 2005).

227 The small-N study underpinning this in-depth case is appropriate given the targeted nature of the
228 interview candidate selection. Focusing on depth over breadth enables the refinement of
229 conceptualisations of general processes (Tsoukas, 2009), with the emphasis here being to understand
230 how firms can create sustainable value and resolve trade-offs.

231 **3.2. Data Analysis**

232 The data was analysed iteratively using both bottom-up and top-down coding in MAXQDA. Data were
233 separated into internal and external stakeholder perspectives and the lexical search function was used
234 to capture all instances where malt was discussed. The interviews were re-read repeatedly and key
235 attributes of the relationships were coded iteratively (Saldána, 2013). Summary stakeholder narratives
236 were developed (Langley, 1999) based on descriptive codes (Saldána, 2013) related to structural and
237 cultural resources perceived as either critical or valued by the respective parties.

238
239 This mixture of attribute coding combined with narrative summaries of each relationship (inductive
240 approach) and descriptive coding, which facilitated the identification of resource configurations
241 (deducted from the analytic framework based on Archer (1995)), underpinned the interpretation of
242 resources, power relations, situational logics and value creation. These systematic case analysis
243 routines were complemented by the authors' insights and imagination reflecting Langley (1999) who
244 argued, building on Weick (1989), that contributing to theory includes a combination of induction,

245 deduction, *and* inspiration - the latter being challenging to codify.

246

247 **4. Case: Malt Business Model Innovation**

248 Adnams are based in East Anglia where some of the best UK malting barley is grown. Yet, pressure
249 on the crops grown, combined with erratic weather patterns, has tended to discourage the planting of
250 malting barley in recent years (S005, 2013).

251 Historically, relationships between breweries, grain merchants and growers are distant (ibid: L252).
252 Brewers buy malt, a key ingredient for beer production, through a one-year contract from maltsters
253 who procure barley via the commodity markets from grain merchants who represent barley growers.
254 Adnams' management described their relationship with both merchants and growers as "*stand offish*"
255 (ibid: L265) with merchants viewed as cautious to introduce their growers to breweries for fear of
256 being bypassed. This wariness, combined with maltsters' control of end-user relationships contributes
257 to maltsters having greater negotiating strength in traditional models (Figure 1).

258 In 2013 Adnams implemented a three-year contract bypassing the spot-market in two of three malt
259 supply chains (Figure 2). This established a contractual link between Adnams, via a maltster and
260 merchant, to specific growers thus increasing interactions between actors. Adnams' motivation to
261 revise this business model was twofold: to ensure security of supply and increase transparency with
262 the aim of influencing farm-level environmental practices (ibid: L252).

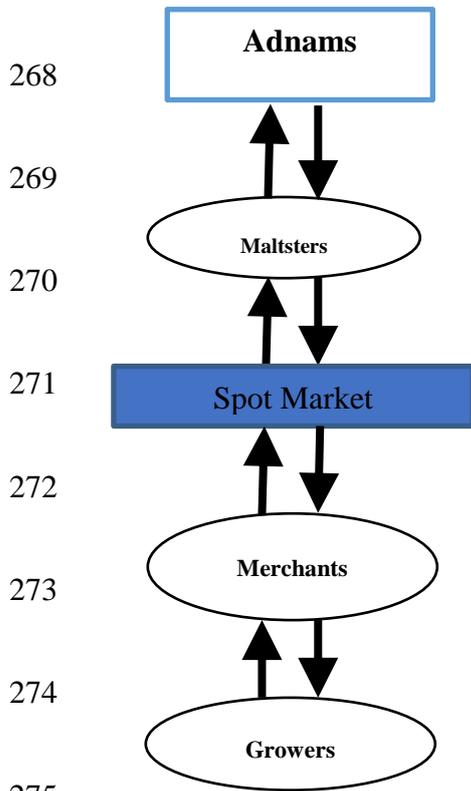
263

264

265

266

267

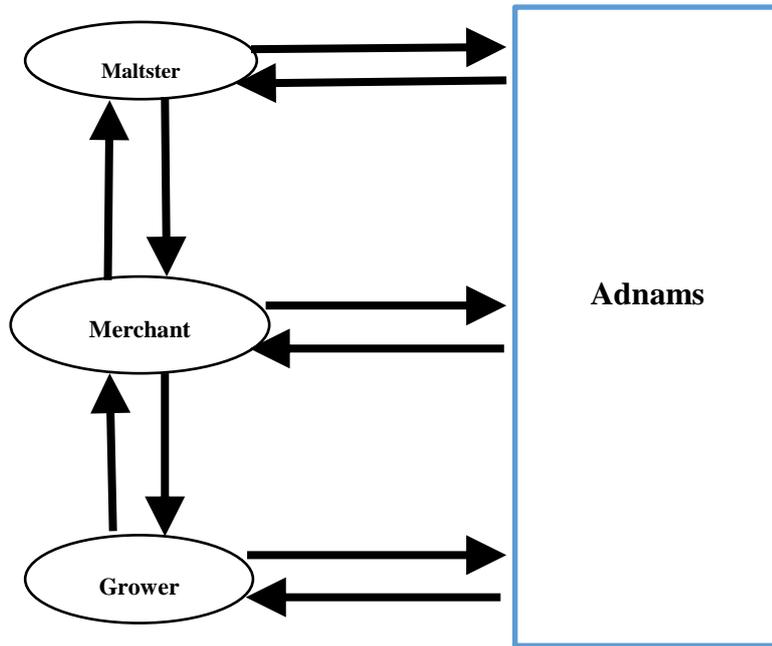


275

276 **Figure 1: Hierarchical spot-**

277 **market supply chain business**

278 **model**



279 **Figure 2: Integrated supply network business model**

281 Table 1 compares key business model characteristics of the traditional malt supply chain (Figure 1)

282 and integrated supply network (Figure 2). Central to the revised business model is the value proposition

283 change from a transactional commodity to a collaborative approach, based on security of supply at a

284 fairer price, risk-sharing, transparency regarding environmental practices and mitigation of

285 environmental value destruction.

286

287
288

Table 1: Trade-offs and situational logics in traditional versus revised business model*

*Analytic categories illustrating business model elements are the authors' own informed by Bocken et al. (2014)

	Traditional Malt Model	Revised Malt Model
Value Proposition	Quality malting barley commodity.	Increased security of supply of quality malt – fixed term contract with flexibility, shared risk, and increased transparency from farm to ‘glass’.
Value Network	Hierarchical: Maltster as gatekeeper between Adnams and other actors.	Supply network: decentralisation of power relations and increased interactions.
Value Creation & Delivery	Economic value created predominantly for Maltster and Merchant given supply and demand fluctuations on spot-market.	Fairer share of economic value through integrated contract. Environmental value through increasing transparency of farm-level practices with a view to improving environmental performance.
Value Capture	Year-long contract via spot-market - fluctuating commodity price.	Longer-term three-year contract integrating the supply network - sharing value, risk, and increased transparency of practices.
Value Destruction	Growers bare cost of crop wastage resulting from poor communication of end-user needs contributing to destruction of environmental and economic value.	Environmental value destruction avoided through reducing crop wastage. Risk is more evenly distributed.
Situational Logics	Adnams have a relationship with the Maltster characterised by <i>contradictory logics</i> . The structure of the supply chain contributes to Adnams’ sustainability cultural resources being inactive, not prioritised nor a source of influence.	Both the Adnams-Maltster and Adnams-Merchant relationships are characterised by <i>contradictory logics</i> . Yet, the Adnams-Grower relationship is characterised by a <i>complementary logic</i> , as both share a commitment to sustainability values.
Sustainability Trade-Offs	The market’s overriding focus is on price at the expense of environmental value. A key priority for Adnams, in addition to quality, is the creation of environmental value.	The <i>complementary logic</i> prioritises both environmental and economic value in the network resolving this trade-off.

289
290
291
292
293
294
295
296

297 **4.1. Malt Supply Chain Business Model**

298 The Adnams-Maltster relationship is purely transactional. Key structural resources are the purchasing
299 power and economic size of the maltster relative to the end-user; and control of end-user relationships
300 due to the maltsters' infrastructure and role converting barley into malt. Cultural resources are apparent
301 insofar as they have conditioned structural resources, for example the quality of the product/barley
302 specifications required. Adnams' sustainability-related cultural resources are not activated because the
303 relationships are mediated via the spot-market (a structural resource) where price overrides all other
304 considerations. This business model is characterised by a *contradictory logic* which creates trade-offs
305 and limits Adnams' ability to use their sustainability cultural resources to influence how quality malt
306 is grown.

307

308 Adnams is both smaller than, and a customer of, the Maltster and, *inter alia*, negotiating strength is
309 likely to accrue to the Maltster. Similarly, the Maltsters' key role as the gateway to end-users implies
310 that negotiating strength would accrue to maltsters in maltster-merchant relationships. However, if
311 supply of quality malting barley decreases, but demand remains the same or increases, negotiating
312 strength could favour merchants and growers.

313

314 **4.2. Malt Supply Network Business Model**

315 There are two resources common to all these relationships: malting barley (structural resource) and
316 openness to innovation (cultural resource). Openness to innovation was, in part, underpinned by
317 parties' willingness to work in a new way relative to traditional malt supply chains. The resource
318 configurations presented in Table 2 relate to Adnams' relationships with each of the supply chain
319 actors. A gap in the data exists on the Maltster-Merchant and Merchant-Grower relationships as the
320 Maltster, Merchant and Grower declined to discuss these given the commercial sensitivity of the new
321 model.

322

323

324

325

326

327

328

329 **Table 2: Key resources: Adnams' malt supply-network business model**
 330

		Maltster		Merchant		Grower	
Resource	Type	Adnams	Maltster	Adnams	Merchant	Adnams	Grower
B2B Product	Structural	X	X	X	X	X	X
Contractual Size	Structural						X
Economic Size	Structural		X				
Infrastructure	Structural		X				X
Key Relationships	Structural		X		X		X
Openness to innovation	Cultural	X	X	X	X	X	X
Sustainable Brand Value	Cultural	X		X		X	X
Sustainability Values	Cultural	X		X		X	X

Key: X indicates the resources being mobilized in each of the bilateral relationships.

331

332

333 **4.2.1. Maltster relationship: Resources, power and situational logics**

334 Three structural resources are apparent: the relative economic size of the Maltster; the Maltsters'
 335 infrastructure; and the Maltster as gatekeeper. For Adnams, access to the Maltsters' key relationships
 336 is necessary for the implementation of the new business model. The Maltster described their motivation
 337 to collaborate as a response to market volatility, supply chain pressure and an attempt to "...*improve*
 338 *how we operate and spread risk*" (R018, 2014: L36).

339 Another driver for the Maltster was their recognition of Adnams' commitment to sustainability: "*We*
 340 *approached Adnams with the idea because they are really focused on sustainability*" (ibid). This
 341 suggests that although the Maltster does not explicitly share Adnams' sustainability commitment, the
 342 cultural resources, embodied by Adnams' sustainability ethos, influenced the adoption of the new
 343 business model. The Maltster acknowledged that while they initiated the conversation to implement
 344 the initiative "*it was something they [Adnams] were already thinking about*" (ibid: L40). Adnams
 345 explored the potential for business model innovation with both their main malt suppliers, suggesting
 346 the Maltster's engagement was also motivated by ensuring continued trade.

347 The Maltster does not explicitly incorporate sustainability values into how they conduct their business,
 348 whereas Adnams does, representing a situation of *contradictory logics* (Archer, 1995). As maltsters

349 are traditionally the gate-keeper, the revised business model eliminates the predominant way the
350 Maltster does business with supply chain actors and creates a less hierarchical network.

351 In this model the Adnams-Maltster relationship is characterised by equal negotiating strength due to
352 both being joint instigators of a longer-term contract. The new network model facilitates multi-way
353 interactions and thus the Maltster no longer controls access to Adnams, ceding some of its influence
354 to other actors. However, supporting Adnams to implement the new model preserves the economic
355 value created and creates the potential to address the environmental value destroyed through crop
356 wastage, through increased communication and shared risk.

357 **4.2.2. Merchant relationship: Resources, power and situational logics**

358 The Maltster approached the Merchant in order to facilitate a direct relationship between Adnams and
359 farm(s) who could “...*consistently supply quality product*” (R029, 2014: L231-L247). Key
360 relationships (structural resource) are important here in two ways; the Merchant’s existing
361 relationships with specific growers; and the potential direct relationship with Adnams created by the
362 new model. The Merchant valued a direct relationship because they perceived the initiative, if
363 successful, as an opportunity to expand their business with Adnams by becoming “*a useful line of*
364 *advice*” (ibid: L407).

365 Adnams’ sustainable brand value (cultural resource) is another driver motivating the Merchant to
366 engage with the new model. The Merchant valued Adnams as a prestigious account with associated
367 reputational benefit - “... *it's a very, very prestigious contract for a small business. So no, I'm just dead*
368 *proud of it...*” (ibid: L282; L407). Moreover, the Merchant recognised Adnams, and a farm in their
369 portfolio, the Grower, as both having explicit commitments to sustainability (ibid: L259) and that a
370 *complementary logic* existed between Adnams and the Grower underpinned by sustainability cultural
371 resources.

372 The Merchant-Adnams relationship however, is characterised by *contradictory logics* as the Merchant
373 does not incorporate sustainability values in how they do business, but Adnams does (Archer, 1995).
374 The fact that the Merchant facilitated access to the Grower, which in a traditional supply chain does
375 not occur, illustrates how this business model eliminates the predominant way the Merchant does

376 business.

377 In this relationship Adnams has more negotiating strength primarily due to the Merchant wanting to
378 increase its future business and valuing a brand association, both opportunities not afforded in the
379 traditional model. Adnams' valued access to the Grower, which only the Merchant could provide
380 through a direct relationship between the two. Through this new relationship Adnams has greater
381 potential to influence the Grower's practices and further environmental value creation. This illustrates
382 the potential of this network business model to resolve the trade-off between environmental and
383 economic value created by the spot-market.

384 **4.2.3. Grower relationship: Resources, power and situational logics**

385 Adnams' desire to work with this Grower is due to the Grower's commitment to sustainability (cultural
386 resource). This was exemplified by structural resources conditioned by sustainability, for example: the
387 Grower investing in carbon foot-printing, renewable energy and an onsite grain storage that reduced
388 food miles to less than 2 miles between harvest and storage among (R029, 2014: L282-L299). These
389 illustrate the *complementary logics* between the Grower and Adnams.

390 Despite their shared commitment to sustainability Adnams required the involvement of both the
391 Maltster and Merchant in order to establish a direct relationship with the Grower. In addition to the
392 examples of structural resources conditioned by sustainability cultural resources, three structural
393 resources are also apparent: Grower's production capacity; the size of the longer-term contract; and
394 the direct relationship with Adnams. The Grower's production capacity and grain storage enable it to
395 consistently provide quality-malting barley (ibid: L102). As they supply fifty percent of Adnams' malt,
396 making Adnams a significant customer (ibid: L114; L137), the longer-term contract (structural
397 resource) is another incentive for the Grower to change how they do business within this supply chain.

398 By being a significant customer Adnams has more negotiating strength as the Grower is reliant on
399 Adnams' income. Nonetheless, the Grower is also a prestigious sustainable brand, contributing to
400 Adnams' motivation to work with this Grower. A further driver for the Grower to engage in the new
401 model was the perceived value of a direct relationship: "*by working with Adnams you know exactly*

402 *what they are looking for*” (ibid: L110). They viewed increased communication as a way to overcome
403 the weather-dependent uncertainties inherent in farming. The Grower viewed discussing crop
404 problems as they arise as a means to reduce crop wastage and associated cost traditionally borne solely
405 by growers (ibid: L141; L218).

406 **5. Discussion**

407 Using Archer’s (1995) concepts of situational logics and power as a lens, we have presented a case
408 study of how Adnams’ traditional malt supply chain business model has been reconfigured into a
409 network-centric business model that resolved an economic and environmental value trade-off through
410 the prioritisation of sustainability-related cultural resources. This research provides four main novel
411 theoretical contributions to the SBM, SSCM, sustainability trade-offs and the strategic management
412 literature respectively.

413 ***Contribution to SBM literature:*** Business models place partners in, and institutionalise, particular
414 situational logics, depending on relative access and an organization’s ability to use structural and
415 cultural resources. These logics enable or constrain sustainable value creation. By reconfiguring supply
416 chains into networks business models activates multiple situational logics; in the case of Adnams the
417 dominant capitalist logic of the spot-market is put into competition with sustainability-related logics.
418 This allows Adnams to influence supply chain actors, including second and third tier partners.

419 Rather than a single *contradictory* logic, where the partner with the greatest negotiating strength can
420 dominate the relationship regardless of any resource complementarity, the reconfigured supply
421 network includes both *contradictory* and *complementary* logics. In Adnams’ case sustainability
422 cultural resources can be prioritised as both they and the Grower share sustainability values. The
423 dominant and contradictory capitalist logic is eliminated as a result and the trade-off between
424 environmental and economic value, increasing the likelihood for novel sustainable value creation. This
425 suggests that shared values (complementary logics) and power relations between network actors are
426 both equally important and illustrates that situational logics provide a mechanism to understand which
427 interests may dominate. Our work elucidates how power and situational logics, underpinned by
428 sustainability values (cultural resources), enable or constrain the sustainable value creation process.

429 Network-centric business models do not need to be characterised by complementary logics (shared
430 values) as actors can use their influence in conjunction with these to reinforce particular ideologies.
431 While instances may arise where all network relationships are characterised by shared values
432 (complementary logics), this may not always be the case. Thus, business model actors need to
433 understand how to use both shared values and their relative influence to reinforce sustainability cultural
434 resources within their networks. By addressing the calls for greater depth in understanding how power
435 impacts sustainable value creation and is institutionalised in business models (Fuchs et al., 2016;
436 Randles & Laasch, 2016; Roome & Louche, 2016) our work thus goes beyond existing literature that
437 recognises the importance of network-centric business model innovation (BMI) (Evans et al. 2017;
438 Bocken et al. 2014; Boons & Lüdeke-Freund, 2013) as well as values (cultural resources) and shared
439 values (complementary logics) as necessary requirements in BMI for sustainable value creation
440 (Breuer & Lüdeke-Freund, 2017).

441 ***Contribution to SSCM literature:*** It is recognised that collaborative and integrated SCM is important
442 for addressing unsustainability (Beske & Seuring, 2014; Schaltegger & Burritt, 2014) and that BMI
443 has implications for supply chain relationships and sustainable value creation opportunities (Lüdeke-
444 Freund et al. 2016). Our work contributes to this theoretical discussion through refining understanding
445 of the role of BMI within SSCM by demonstrating empirically how different business model types
446 (hierarchical versus network-centric), institutionalise distinct situational logics and power relations. In
447 Adnams' revised supply network model, the combination of increased integration between partners
448 and the activation of multiple situational logics changed the 'rules of the game' (Beckmann et al. 2012)
449 governing the business model relationships suggesting that BMI can be a means for firms to prioritise
450 their values within SSCM. Thus our research also addresses the call within SSCM for clarity regarding
451 the implications of complex firm interactions when they engage in further supply chain integration
452 (Gold et al. 2010).

453 ***Contribution to sustainability trade-offs literature:*** Our empirical findings illustrate how
454 implementing a network-centric business model can be a means to resolve sustainability trade-offs
455 within hierarchical supply-chains. However, while a *contingent sustainability trade-off* was resolved
456 in this instance, the sustainability landscape is far too complex to implement business models that
457 achieve win-wins every time. Even if the 'rules of the game' can be changed through BMI, situations

458 will exist where *necessary trade-offs* exist or outcomes will be sub-optimal for a partner. Over-
459 emphasising synergies can contribute to limited exploration of what organisations do when non-
460 synergistic strategies are required (Hahn & Figge, 2011; Pagell & Shevchenko, 2014). Rather than
461 seeking optimal outcomes that may not exist, organisations should be looking to *satisfice* as trade-offs
462 may also be necessary to overcome situations characterised by contradictory logics. This is
463 exemplified by Interface’s “Climbing up Mt. Sustainability” initiative, where lower impact
464 incremental solutions with positive short-term economic benefits can lead to greater sustainability
465 performance in the long term. However, satisficing can come at the expense of more radical solutions
466 urgently required to address unsustainability (Weissbrod & Bocken, 2017) or organisations addressing
467 all of their negative social or environmental practices (Matthews et al. 2016; Pagell & Shevchenko,
468 2014) – representing an unresolved paradox in SSCM and SBM research.

469 ***Contribution to strategic management:*** The RBV and RDT have been used to enrich explanatory
470 power in SSCM (Sarkis et al. 2011; Halldorsson et al. 2015). Archer’s (1995) lens provides an
471 innovative way of coherently integrating RBV and RDT, and therefore can be regarded as a novel
472 means to strengthen the ‘relational’ perspective in SSCM (Gold et al. 2010). All view firms as bundles
473 of resources, but RBV places emphasis on internal resources in value creation (Peteraf & Barney,
474 2003), while RDT emphasises how a firm’s lack of critical resources creates power dependencies
475 (Pfeffer & Salancik, 1978). Thus, RBV acknowledges cultural resources in value creation, but neglects
476 power relations and RDT focuses on power, but over-emphasises structural resources, neglecting
477 cultural resources (Nienhüser, 2008).

478

479 Archer’s cultural-structural distinction illustrates how structural resources, ideologically conditioned
480 by sustainability-related cultural resources, may be used. This distinction, combined with her concept
481 of power relations, provide insights into how novel forms of value are enabled or inhibited by
482 situational logics. This avoids the trap of being over-optimistic regarding the challenges of diffusing
483 sustainability ideas and values into society, a persistent gap in extant sustainability literature (Fuchs et
484 al., 2016; Randles & Laasch, 2016; Harris & Crane, 2002). As this study of situational logics shows,
485 understanding how power is distributed and how it may be used to achieve value creation outcomes is
486 an important addition to these theories.

487

488 **6. Conclusion**

489 Our research has demonstrated how business models are underpinned by structural and cultural
490 resource configurations which institutionalise power relations. The ensuing situational logics embed
491 or resolve trade-offs, enabling or inhibiting sustainable value creation, illustrated by the value created
492 in Adnams' supply chain versus network. Our case illustrated the key role of *complementary logics* in
493 resolving sustainability-related trade-offs by changing the 'rules of the game' governing business
494 model relationships.

495 These insights contribute to the SBM, SSCM, sustainability trade-offs and strategic management
496 literatures and have implications for organisations seeking to use business model innovation (BMI) to
497 contribute to the development of sustainable supply networks. The paper refines our understanding of,
498 first, how sustainable value creation in supply chains are mediated by social interactions of business
499 model actors (Zott & Amit, 2010). Second, how business models institutionalise power relations
500 (Fuchs et al. 2016; Randles & Laasch, 2016; Roome & Louche, 2016). Third, the extent to which
501 sustainability trade-offs can be overcome (Pagell & Shevchenko, 2014; Beckman et al. 2012) through
502 (BMI) that brings partners into new relationships. Fourth, using Archer (1995) as a lens represents a
503 novel way of coherently integrating resource-based view (RBV) and resource-dependency theory
504 (RDT) while strengthening the 'relational' in SSCM (Gold et al. 2010; Beske & Seuring,
505 2014; Schaltegger & Burritt, 2014).

506 These findings are based on a single in-depth case study of how a network-centric BMI
507 resolved the environmental and economic trade-off created by traditional malt supply
508 chains. Therefore, further research on BMI is recommended in different sectors to refute, corroborate,
509 or extend the insights developed - particularly in contexts where trade-offs between
510 economic, social, and environmental values are resolved and conversely where the resolution
511 of social and environmental trade-offs is prioritised ahead of economic value.

512 **7. Acknowledgements**

513 The authors thank the EPSRC Centre for Industrial Sustainability (RG64858), ESRC Centre for the
514 Understanding of Sustainable Prosperity (ES/M010163/1) and Climate-KIC (Regulation (EU) No
515 1292/2013) for their funding. The authors also thank Adnams Plc. for access to their stakeholders and

516 the Editors and anonymous reviewers for their constructive comments.

517 **8. References**

518 ADNAMS 2014. Internal Document: *Taking the Time Intro*. UK, Adnams.

519 ALLEE, V. 2000. Reconfiguring the Value Network. *Journal of Business Strategy*, Vol 21, No.4.

520 ARCHER, M. 1995. *Realist social theory: the morphogenetic approach*, University of Cambridge,
521 U.K.

522 BAKER, S.E. & EDWARDS, R. (eds) 2012. How many qualitative interviews is enough? *NCRM*
523 *Methods Review Paper*. UK.

524 BECKMANN, M., HIELSCHER, S. & PIES, I. (2012) Commitment Strategies for Sustainability:
525 How Business Firms can Transform Trade-Offs into Win-Win Outcomes. *Bus. Strat. Env.* 23, 18-37.

526 BESKE, P. & SEURING S. 2014. Putting sustainability into supply chain management. *Supply Chain*
527 *Management: An International Journal*, 19, 3, 322-331.

528 BBPA. 2013. 'The Beer Story - calling Time on Duty' – launch of new BBPA short film making the
529 case for tax change. UK.

530 BOCKEN, N. M. P., SHORT, S. W., RANA, P. & EVANS, S. 2014. A literature and practice review
531 to develop sustainable business model archetypes. *JCLP*, 65, 42-56.

532 BOONS, F. & LÜDEKE-FREUND, F. 2013. Business models for sustainable innovation: state-of-the-
533 art and steps towards a research agenda. *JCLP*, 45, 9-19.

534 BOWMAN, C. & AMBROSINI, V. 2000. Value Creation Versus Value Capture: Towards a Coherent
535 Definition of Value in Strategy. *BJM*. 11, 1, 1-15.

536 BRAZIOTIS, C., BOURLAKIS, M., ROGERS, H. & TANNOCK, J. 2013. Supply chains and supply

537 networks: distinctions and overlaps. *Supply Chain Management: An International Journal*, 18, 644-
538 652.

539 BREUER, H & LÜDEKE-FREUND, F. (2017) Values-Based Network and Business Model
540 Innovation. *Int. J. Innov. Mgt.* 21, 3. 1-35.

541 DEN OUDEN, E. 2012. *Innovation Design: Creating Value for People, Organizations and Society*.
542 London: Springer.

543 DYER, J.H. & SINGH, H. 1998. The relational view: cooperative strategy and sources of inter-
544 organizational competitive advantage. *AMR*. 23, 4, 660-679.

545 DYLLICK, T. & MUFF, K. (2016) Clarifying the Meaning of Sustainable Business: Introducing a
546 Typology from Business-as-Usual to True Business Sustainability. *OAE*, 29, 2, 156-174.

547 ESAFAHBODI, A., ZHANG, Y. & WATSON, G. 2016. Sustainable supply chain management in
548 emerging economies: Trade-offs between environmental and cost performance. *IJPE*, 181, 350-366.

549 EVANS, S., VLADIMIROVA, D., HOLGADO, M., VAN FOSSEN, K., YANG, M., SILVA, E. &
550 BARLOW, C.Y. 2017. Business Model Innovation for Sustainability: Towards a Unified Perspective
551 for Creation of Sustainable Business Models. *Bus. Strat. Env.*

552 FLYVBERG, B. 2006. Five Misunderstandings About Case Study Research. *Qualitative Inquiry*, 12,
553 219.

554 FREEMAN, R.E. 2010 Managing for Stakeholders: Trade-offs or Value Creation. *JBE*. 96, 7-9.

555 FUCHS, D., DI GUILO, A., GLAAB, K., LOREK, S., MANIATES, M., PRINCEN, T. & ROPKE, I.
556 2016. Power: the missing element in sustainable consumption and absolute reductions research and
557 action. *JCLP*, 132, 298-307.

- 558 GOLD, S., SEURING, S. & BESKE, P. (2010). Sustainable Supply Chain Management and Inter-
559 Organizational Resources: A Literature Review. *Corp. Soc. Responsib. Environ. Mgmt.* 17, 230-245.
- 560 HAHN, T. & FIGGE, F. (2011). Beyond the Bounded Instrumentality in Current Corporate
561 Sustainability Research: Toward an Inclusive Notion of Profitability, *JBE*, 104, 325-345.
- 562 HALLDÓRSSON, A., HSUAN, J. & KITZAB, H. 2015. Complementary theories to supply chain
563 management revisited – from borrowing theories to theorizing. *Supply Chain Management: An*
564 *International Journal*, 20, 6, 574-586.
- 565 HARRIS, L.C., & CRANE, A. 2002. The greening of organizational culture: Management views on
566 the depth, degree, and diffusion of change. *JOCM*, 15, 3, 214-234.
- 567 LANGLEY, A. 1999. Strategies for Theorising from Process Data. *AMR*, Vol, 24, No, 4, 691-710.
- 568 LASZLO, C., SHERMAN, D., WHALEN, J. & ELLISON, J. 2005. Expanding the Value Horizon:
569 Stakeholders as a Source of Competitive Advantage. *JCC*, 12, 65-76.
- 570 LAVIE, D. 2006 The competitive advantage of interconnected firms: An extension of the resource-
571 based view. *AMR*, 31, 3, 638–658.
- 572 LINNENLUECKE, M. & GRIFFITH, A. 2010. Corporate sustainability and organizational culture.
573 *JWB*. 45, 357-366.
- 574 LÜDEKE-FREUND, F., GOLD, S. & BOCKEN, N. 2016. Sustainable Business Model and Supply
575 Chain Conceptions – Towards an Integrated Perspective, Bals, L. & Tate, W. (Eds.): *Implementing*
576 *Triple Bottom Line Sustainability into Global Supply Chains*. Sheffield: Greenleaf, 337-363.
- 577 LEPAK, D. P., SMITH, K. G. & TAYLOR, M. S. 2007. Value Creation and Value Capture: A
578 Multilevel Perspective. *AMR*, 32, 180-194.
- 579 MATTHEWS, L., POWER, D., TOUBOULIC, A. & MARQUES, L. 2016. Building Bridges: Toward
580 Alternative Theory of Sustainable Supply Chain Management. *Journal of Supply Chain Management*.

581 52(1). 82-94.

582 MOORE, J. F. 1996. *The Death of Competition*, NY, U.S.A., HarperBusiness.

583 NIENHÜSER, W. 2008. Resource Dependence Theory - How Well Does It Explain Behavior of
584 Organizations? *Management Revue*, 19, 9-32.

585 NORMANN, R. & RAMIREZ, R. 1993. From Value Chain to Value Constellation. *HBR*, July-August.

586 PAGELL, M. & SHEVCHENKO, A. 2014. Why research in sustainable supply chain management
587 should have no future. *Journal of Supply Chain Management*. 50,1, 44-55.

588 PETERAF, M. A. & BARNEY, J. B. 2003. Unravelling the resource-based tangle. *Managerial and*
589 *Decision Economics*, 24, 309-323.

590 PFEFFER, J. & SALANCIK, G. R. 1978. *The External Control of Organizations: A Resource*
591 *Dependence Approach*, USA, Harper & Row.

592 RANGLES, S. & LAASCH, O. 2016. Theorising the Normative Business Model. *OAE*, Vol 29, Issue
593 1, 53-73.

594 RAUTER, R., JONKER, J. & BAUMGARTNER, R.J. (2017) Going one's own way: drivers in
595 developing business models for sustainability. *JCLP*, 140, 144-154.

596 ROOME, N. & LOUCHE, C. 2016. Journeying Toward Business Models for Sustainability: A
597 Conceptual Model Found Inside the Black Box of Organisational Transformation. *OAE*, Vol 29, Issue
598 1, 11-35.

599 SARKIS, J., ZHU, Q. & LAI, K. 2011. An Organizational Theoretic Review of Green Supply Chain
600 Management Literature, *IJPE*, 130,1, 1-15.

601 SALDANA, J. 2013. *The Coding Manual for Qualitative Researchers*. USA, Sage.

- 602 SCHALTEGGER, S., HANSEN, E. G. & LÜDEKE-FREUND, F. 2016. Business Models for
603 Sustainability: Origins, Present Research, and Future Avenues. *OAE*, Vol 29, Issue 1, 3-10.
- 604 SCHALTEGGER, S. & BURRITT, R. 2014. Measuring and managing sustainability performance in
605 supply chains: Review and sustainable supply chain management framework. *Supply Chain*
606 *Management: An International Journal*, 19, 3, 232-241.
- 607 SEURING, S. & MÜLLER, M, 2008. Core Issues in Sustainable Supply Chain Management – a
608 Delphi Study. *Bus. Strat. Env.*, 17, 455-466.
- 609 STUBBS, W. & COCKLIN, C. 2008. Conceptualizing a “Sustainability Business Model”. *OAE*, 21,
610 103-127.
- 611 TREGIDGA, H., KEARINS, K., MILNE, M. 2013. The Politics of Knowing “Organizational
612 Sustainable Development”. *OAE*. 26(1), 102-129.
- 613 TSOUKAS, H. 2009. Craving for Generality and Small-N Studies: A Wittgensteinian Approach
614 towards the Epistemology of the Particular in Organization and Management Studies. Buchanan, D.
615 & Bryman, A. (Eds). *The SAGE Handbook of Organizational Research Methods*, UK: Sage
616 Publications Ltd., 285-301.
- 617 TURNBULL, K. J. & VERITY, J. 2011. *Adnams - A Living Company: New perspectives on*
618 *Leadership*, Case #312-124-1. UK: Cranfield School of Management.
- 619 UPWARD, A. & JONES, P. (2016) An Ontology for Strongly Sustainable Business Models: Defining
620 an Enterprise Framework Compatible With Natural and Social Science. *OAE*, 29, 1, 97-123.
- 621 WEICK, K. 1989. Theory construction as disciplined imagination. *AMR*. 14: 516-531.
- 622 WEISSBROD, I. & BOCKEN, N. 2017. Developing sustainable business experimentation capability
623 - A case study. *JCLP*, 142, 2663-2676.

624 ZOTT, C. & AMIT, R. 2010. Business Model Design: An Activity System Perspective. *LRP*, 43, 216-
625 226.

626 ZOTT, C., AMIT, R. & MASSA, L. 2011. The Business Model: Recent Developments and Future
627 Research, *JOM*, 37, 1019-1042.