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Sustainable value and trade-offs: exploring situational logics and power relations in a UK brewery’s malt supply network business model

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

Key words: Margaret Archer, resource configurations, sustainable business model innovation, trade-offs, situational logics
1. Introduction

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

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

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

To address these gaps and explore the “the complex interrelations which arise when proactive firms engage in further reaching supply chain integration” (Gold et al. 2010:240), we present an exploratory case study of how Adnams, a UK brewer and sustainability pioneer, created novel forms of value by
revising its malt business model from a hierarchical supply chain to a supply network that prioritises environmental value creation and increased integration through direct relationships.

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

2. Value and Sustainable Value Creation

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

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

While the literature shows that the process of value creation is often contested, a basic premise is that value is created when resources are brought together by organisations in such a way that there is a demand for the resultant product or service on the open market (Bowman & Ambrosini, 2000). Drawing from Archer (1995), the value creation process can be described as follows:
- Cultural and structural resources are contingently distributed between firms;
- Access to different resources gives a firm bargaining power and negotiating strength in relationships;
- Differential negotiating strength places partners in situational logics;
- Different types of situational logics result in particular types of value being created and different trade-offs being considered.

**Cultural and structural resource distribution between firms**

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

Sustainability-related concepts, values and ethos are seen here as cultural resources.

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

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

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

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

Situational Logics and Value Creation

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

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

In contrast, partners can find themselves in a situational logic characterised by contradictory
incompatibilities. Value may be forcibly created through the imposition of resource configurations as a weaker partner’s resources are appropriated in service of a stronger organisation. Here value accrues to the organisation that controls the relationship; the organisation with weaker negotiating strength must choose between current beliefs and ways of doing things, and new ones being imposed. The value subsequently created is a reproduction of the stronger partner’s cultural resource base (Archer, 1995:240) and not novel, unlike that created under contingent complementarity. Here, cultural resources are appropriated by the stronger partner, a relevant example being natural capital valuation, where the use of nature by business is strongly conditioned by capitalist ideology.

2.2. Sustainable Value and Trade-Offs

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

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

There is an inherent tension between the societal aspirations of sustainability and firm level goals. Trade-offs will always occur when organisations promote their own economic growth at the expense of environmental and social goals (Tregidga et al. 2013; Hahn & Figge, 2011). While some view trade-offs between economic and non-economic performance as inevitable (Esfahbodi et al. 2016; Seuring & Muller, 2008) others see some promise in achieving truly sustainable supply chains if these trade-offs can be resolved (Pagell & Shevchenko, 2014).
Freeman (2010) notes that stakeholder interests are always conjoined and organisations should reframe their ideas about sustainability rather than accept trade-offs that result in sub-optimal outcomes for shareholders and stakeholders. While little progress has been made in this area (Pagell & Shevchenko, 2014), some argue that trade-offs can be resolved by confronting the dominant economic-first paradigm through ‘changing the rules of the game’ (Beckmann et al. 2012; Dyllick & Muff, 2016) or using different theories to rework the assumptions of SSCM (Matthews et al. 2016).

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

- **necessary trade-offs** occur when cultural resources (sustainability ideas) and structural resources (process, product or service, business model) cannot be coherently combined (for example, the idea of “sustainable tobacco”).

- **contingent trade-offs** happen when cultural and structural resources can be coherently combined, but net-positive sustainability benefits are not realised. For example, when firms do not have access to sufficient sustainability cultural resources to reimagine their value proposition (Freeman, 2010); or as the less powerful partner in a situational logic their sustainability mission may be appropriated to other ends.

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

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

3. Method

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

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

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


3.1. Data Collection

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

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

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

3.2. Data Analysis

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

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

4. Case: Malt Business Model Innovation

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

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

In 2013 Adnams implemented a three-year contract bypassing the spot-market in two of three malt supply chains (Figure 2). This established a contractual link between Adnams, via a maltster and merchant, to specific growers thus increasing interactions between actors. Adnams’ motivation to revise this business model was twofold: to ensure security of supply and increase transparency with the aim of influencing farm-level environmental practices (ibid: L252).
Table 1 compares key business model characteristics of the traditional malt supply chain (Figure 1) and integrated supply network (Figure 2). Central to the revised business model is the value proposition change from a transactional commodity to a collaborative approach, based on security of supply at a fairer price, risk-sharing, transparency regarding environmental practices and mitigation of environmental value destruction.
### 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)*

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

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

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

4.2. Malt Supply Network Business Model

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

<table>
<thead>
<tr>
<th>Resource</th>
<th>Type</th>
<th>Maltster</th>
<th>Merchant</th>
<th>Grower</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2B Product</td>
<td>Structural</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Contractual Size</td>
<td>Structural</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Economic Size</td>
<td>Structural</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Structural</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Key Relationships</td>
<td>Structural</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Openness to innovation</td>
<td>Cultural</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Sustainable Brand Value</td>
<td>Cultural</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Sustainability Values</td>
<td>Cultural</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

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

### 4.2.1. Maltster relationship: Resources, power and situational logics

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

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

The Maltster does not explicitly incorporate sustainability values into how they conduct their business, whereas Adnams does, representing a situation of contradictory logics (Archer, 1995). As maltsters
are traditionally the gate-keeper, the revised business model eliminates the predominant way the 
Maltster does business with supply chain actors and creates a less hierarchical network.

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

4.2.2. Merchant relationship: Resources, power and situational logics

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

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

The Merchant-Adnams relationship however, is characterised by contradictory logics as the Merchant 
does not incorporate sustainability values in how they do business, but Adnams does (Archer, 1995). 
The fact that the Merchant facilitated access to the Grower, which in a traditional supply chain does 
not occur, illustrates how this business model eliminates the predominant way the Merchant does
In this relationship Adnams has more negotiating strength primarily due to the Merchant wanting to increase its future business and valuing a brand association, both opportunities not afforded in the traditional model. Adnams’ valued access to the Grower, which only the Merchant could provide through a direct relationship between the two. Through this new relationship Adnams has greater potential to influence the Grower’s practices and further environmental value creation. This illustrates the potential of this network business model to resolve the trade-off between environmental and economic value created by the spot-market.

4.2.3. Grower relationship: Resources, power and situational logics

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

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

By being a significant customer Adnams has more negotiating strength as the Grower is reliant on Adnams’ income. Nonetheless, the Grower is also a prestigious sustainable brand, contributing to Adnams’ motivation to work with this Grower. A further driver for the Grower to engage in the new model was the perceived value of a direct relationship: “by working with Adnams you know exactly
what they are looking for” (ibid: L110). They viewed increased communication as a way to overcome the weather-dependent uncertainties inherent in farming. The Grower viewed discussing crop problems as they arise as a means to reduce crop wastage and associated cost traditionally borne solely by growers (ibid: L141; L218).

5. Discussion

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

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

Rather than a single contradictory logic, where the partner with the greatest negotiating strength can dominate the relationship regardless of any resource complementarity, the reconfigured supply network includes both contradictory and complementary logics. In Adnams’ case sustainability cultural resources can be prioritised as both they and the Grower share sustainability values. The dominant and contradictory capitalist logic is eliminated as a result and the trade-off between environmental and economic value, increasing the likelihood for novel sustainable value creation. This suggests that shared values (complementary logics) and power relations between network actors are both equally important and illustrates that situational logics provide a mechanism to understand which interests may dominate. Our work elucidates how power and situational logics, underpinned by sustainability values (cultural resources), enable or constrain the sustainable value creation process.
Network-centric business models do not need to be characterised by complementary logics (shared values) as actors can use their influence in conjunction with these to reinforce particular ideologies. While instances may arise where all network relationships are characterised by shared values (complementary logics), this may not always be the case. Thus, business model actors need to understand how to use both shared values and their relative influence to reinforce sustainability cultural resources within their networks. By addressing the calls for greater depth in understanding how power impacts sustainable value creation and is institutionalised in business models (Fuchs et al., 2016; Randles & Laasch, 2016; Roome & Louche, 2016) our work thus goes beyond existing literature that recognises the importance of network-centric business model innovation (BMI) (Evans et al. 2017; Bocken et al. 2014; Boons & Lüdeke-Freund, 2013) as well as values (cultural resources) and shared values (complementary logics) as necessary requirements in BMI for sustainable value creation (Breuer & Lüdeke-Freund, 2017).

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

**Contribution to sustainability trade-offs literature:** Our empirical findings illustrate how implementing a network-centric business model can be a means to resolve sustainability trade-offs within hierarchical supply-chains. However, while a contingent sustainability trade-off was resolved in this instance, the sustainability landscape is far too complex to implement business models that achieve win-wins every time. Even if the ‘rules of the game’ can be changed through BMI, situations
will exist where necessary trade-offs exist or outcomes will be sub-optimal for a partner. Over-emphasising synergies can contribute to limited exploration of what organisations do when non-synergistic strategies are required (Hahn & Figge, 2011; Pagell & Shevchenko, 2014). Rather than seeking optimal outcomes that may not exist, organisations should be looking to *satisfice* as trade-offs may also be necessary to overcome situations characterised by contradictory logics. This is exemplified by Interface’s “Climbing up Mt. Sustainability” initiative, where lower impact incremental solutions with positive short-term economic benefits can lead to greater sustainability performance in the long term. However, satisficing can come at the expense of more radical solutions urgently required to address unsustainability (Weissbrod & Bocken, 2017) or organisations addressing all of their negative social or environmental practices (Matthews et al. 2016; Pagell & Shevchenko, 2014) – representing an unresolved paradox in SSCM and SBM research.

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

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

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

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

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

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