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‘Plan A’: Analysing business model innovation for sustainable consumption in mass-market clothes retailing

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Clothing is an important system to be investigated for new insights into sustainable consumption. Sustainable consumption lacks a precise definition against which an individual or business can be assessed (Jackson, 2005) and is contested (Jackson, 2006). However, it encompasses ideas of intra-generational equity and planetary carrying capacity, similar to the equally contested field of sustainable development. Examples of these demand fourfold (von Weizsäcker et al., 1998) or tenfold (Wackernagel et al., 1997) improvement in output per unit of resource. If there is to be such transformational change in resource efficiency for sustainable consumption in developed countries, then retailing will need to transform. Large retailers are key actors; innovation in their business models will be necessary. Whilst smaller companies can break new ground in sustainability, it is the large incumbent companies that have the scale to deliver significant impact (Hockerts and Wüstenhagen, 2010). Retailers as influencers of consumer behaviour in fashion and clothing have only recently been researched, and in limited contexts (Kozlowski et al., 2012).

In clothing, the consumer use phase has the largest environmental impact (Madsen et al., 2007, Allwood et al., 2006), yet this is a ‘vastly under-explored area of innovation’ (p76, Fletcher, 2008). This paper examines how the leading mass-market clothes retailer in the UK, Marks & Spencer (M&S), has sought to promote more environmentally sustainable consumer behaviour in clothing. The paper analyses M&S’s business case drivers and to business model innovation for eight initiatives about clothing use, employing Schaltegger et al.’s (2012) framework. The initiatives are selected from M&S’s ‘Plan A’, a well-documented Corporate Responsibility programme. This analysis identifies the business case rationale for the activities and how they are linked to business model innovation. Drawing on this, the paper considers implications for the study of business model innovation for sustainability and system level innovation, and reflects on how the framework could be developed.

The paper is set out as follows. The first section establishes the importance and interest in studying clothes retailing, and the case of M&S, the largest UK clothes retailer. The second explains why business model theory and business case theory for sustainability can be used together to identify patterns of systemic change. The methodology is explained in the next section. The fourth section has the results, the fifth discusses them, and the final section provides a conclusion.

Retailers, Clothing and Innovation for Sustainable Consumption

Many researchers have sought to understand and explain how long-established systems of production and consumption could be influenced to transform through innovation, in order to achieve the goal of dramatically increased environmentally sustainability (Tukker et al., 2008, Shove, 2003, Berkhout et al., 2004). Large existing businesses are seen as being trapped in systemic interdependencies (Tukker et al., 2008). This is especially so in consumer businesses with short term profit focus, such as retailers (Charter et al., 2008). On one hand, individual firms are said to have too limited a role to make changes happen in systems (Smith et al., 2005), yet, on the other, large businesses have a broad reach of influence (Hockerts and Wüstenhagen, 2010). This paper examines one large business in order to assess if and how its activities in the clothing system could represent system innovation for material scale improvement in environmental sustainability.

Systems of clothing in developed markets are large, complex and wide-ranging; in 2011, £41 billion was spent on clothing in the UK (Mintel, 2012b); it is the second largest consumer goods category after food and drink at £102 billion (Mintel, 2013). Spaargaren (2011) identifies clothing as one of the sectors in which socio-technical transitions approaches for increased sustainability have been least applied (in comparison to food and housing). The UK Government also identified clothing as one of ten priority areas for action for sustainable consumption and production (DEFRA, 2010b). It brought together nearly 300 clothing stakeholders (including businesses, charities and NGOs) to work on a Sustainable Clothing Action Plan (DEFRA, 2010a). The output included a schematic of the life cycle of clothing and its extensive environmental and social impacts (p5, DEFRA, 2010b). In clothes retailing and consumption, each of the stages has a complex socio-technical system of its own; in the use phase alone, Shove (p137, 2003) describes a complex 'system of systems' just for domestic clothes laundering. Figure 1 shows six inter-related systems in the 'Use Chain' and the businesses that provide products and services within it. This has been built on the Sustainable Clothing Action Plan (DEFRA, 2010a), Shove (2003) and on Solomon and Rabolt's (2004) explanation of the interrelated systems in the retailing, consumption and disposal of clothing.

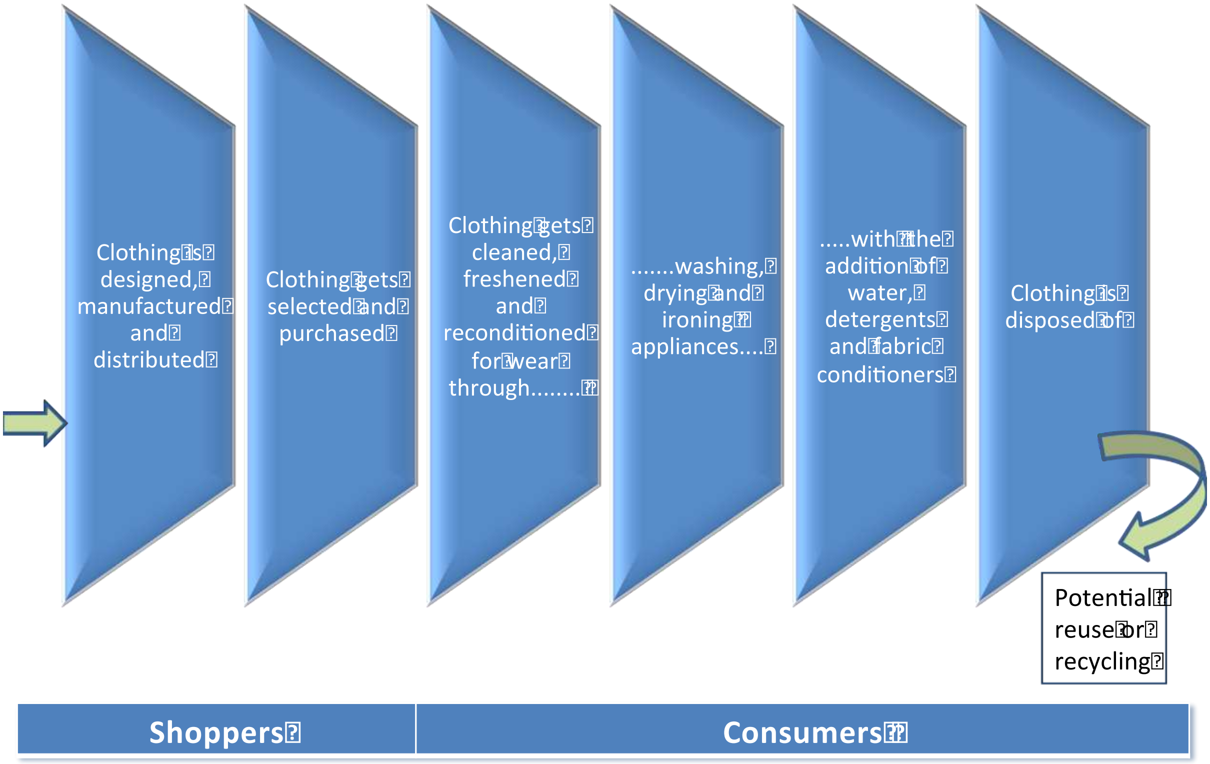

Figure 1: The Use Chain for clothing, developed by the author, informed by DEFRA (2010b) and Shove (2003)

This Use Chain distinguishes between shoppers (or ‘customers’ in M&S reports) and consumers. The process of clothes shopping has become a leisure activity in its own right, over 50% of women agreeing that it fulfils a need for entertainment (Corker, 2011). The term ‘consumer’ is reserved for those wearing, cleaning, washing, drying, ironing and, later, recycling, or otherwise disposing of clothes. The cycle of use and re-use requires detergents, appliances, water, and power (Shove, 2003), before disposal, possible alteration, re-use or recycling.

In each of the Use Chain systems, retailers of clothing are intermediaries between shoppers and manufacturers, potentially playing a number of relevant roles for sustainable consumption. Firstly, they proactively construct the shape and constraints for consumers' consumption choices, for instance in 'choice editing' (Charter et al., 2008). Secondly they are gatekeepers for good consumption behaviour (Lee et al., 2012, Solomon and Rabolt, 2004) and thirdly they represent their views of consumer needs to government (Marsden and Wrigley, 1995, DEFRA, 2010b). Therefore retailers are an influential link in the production and consumption chain for consumer goods such as clothes.

The demand for more frequent replacement of clothing has increased over recent years (O'Cass, 2004). More garments are being disposed of after being worn relatively few times (Birtwistle and Moore, 2007, McAfee et al., 2007). Reasons given for this include price decreases (Morgan and Birtwistle, 2009), due to clothing being sourced at lower cost from developing countries (Jones et al., 2005). Furthermore retailers have promoted 'fast fashion', thereby increasing the frequency of purchase of clothing to five or more 'seasons' (Solomon and Rabolt, 2004), through heightened trend exploitation, and supported by shorter development cycles (Reinach, 2005, Tokatli, 2008, Tokatli et al., 2008). This has led to an increasingly detrimental environmental impact (Ritch and Schröder, 2012).

Marks and Spencer

M&S is the long term market leader in clothes retailing in the UK (Mintel, 2012b, 2012a, 2010, 2009, 2008, 2007), with a longstanding reputation for quality at good value (Worth, 2007). Its main categories of goods are clothing and food (Marks and Spencer, 2013a) and is predominantly a UK business; the UK accounts for 88% of its sales revenue, through 790 stores and on line sales (Marks and Spencer, 2013c). The firm is long-established; it was registered as a limited company in 1903 (Worth, 2007). M&S sells clothing under its own registered brand names only and therefore is fully responsible for the supply chain and manufacture of the clothing it sells. From the 1930's M&S has invested in technological innovation in textiles in its supply chain; for instance, in the 1950's and 1960's the company led the mass market availability of clothing manufactured using new synthetic textiles (Worth, 2007). Fletcher (2008) reported that, more than ten years previously, M&S had been working to reduce the environmental impact of its clothing. M&S's specific competitive advantages in clothing arise from its trusted consumer reputation for quality (Worth, 2007), long established capabilities in considering environmental impacts (Blowfield, 2013), and its textile design and sourcing expertise (Khan et al., 2008). These enable M&S to impact the whole Use Chain for the environmental sustainability of the clothing system and able to 'simultaneously exercise demand-power upwards and supply-power downwards' (p362, Huber, 2008).

M&S has a well-defined Corporate Responsibility programme, launched in January 2007 as 'Plan A' (Marks and Spencer, 2007), consisting of 100 individual initiatives in five areas. In 2010, the five areas were restructured, renumbered and extended, and a further 80 were added, making 180 in total. All the initiatives are tracked within the company's annual reports: 'How We Do Business' (Marks and Spencer, 2013b). In order to find patterns of systemic change arising from Plan A in clothing, this paper will next identify the relevant business model innovation literature.

Business Models and Innovation

The concept of the business model has become increasingly used to provide explanations and tools for studying the dynamics of businesses (Zott et al., 2011), emerging as e-commerce firms were established and grew. These were often characterised by service that was free at the point of use. Therefore it was not always obvious how the provision of value to customers was to lead to economic value being generated for the business owners. Business model concepts showed how value could be created in these circumstances . Given this provenance, some concepts prioritise the creation of economic value for the business

(Zott et al., 2011, Chesbrough and Rosenbloom, 2002, Johnson et al., 2008). A frequently used approach from Osterwalder and Pigneur (2010) deconstructs the business model into nine inter-related ‘building blocks’. These blocks require specification of the value proposition (VP), the key resources, the key partnerships, the key activities, the customer segments, the customer relationships, the channels, the cost structure, and the revenue streams.

The concept of competitive advantage, the capacity to improve and innovate continuously (Porter and van der Linde, 1995), is treated by authors within business model analysis differently. Teece (2010) and Magretta (2002) explicitly exclude it and regard it as part of consideration of business strategy whereas Morris (2005), Chesbrough and Rosenbloom (2002) include it. Johnson et al. (2008) regard competitive advantage as resulting from a unique way the elements of the business model are put together. Competitive advantage will also be considered later in connection with business cases for sustainability, since it seems important when considering system-level innovation.

The Business Case for Sustainability

The business model concept has recently been employed in the context of sustainable innovation (Boons and Lüdeke-Freund, 2013, Wüstenhagen and Boehnke, 2008, Wells, 2008, Hannon et al., 2013). Because it is used to define a company’s activities in the context of its customers and the entities it interacts with, on its activities, where they take place and what value is accrued, by whom, as a result, it therefore enables the business to be seen as part of a system, rather than operating in isolation (Johnson and Suskewicz, 2009).

Schaltegger et al. (2012) condense Osterwalder and Pigneur’s (2010) nine business model innovation ‘building blocks’ into four pillars (A, B, C and D in Figure 2). A high degree of business model innovation relates to changes that can be identified across all four pillars (Schaltegger et al., 2012).

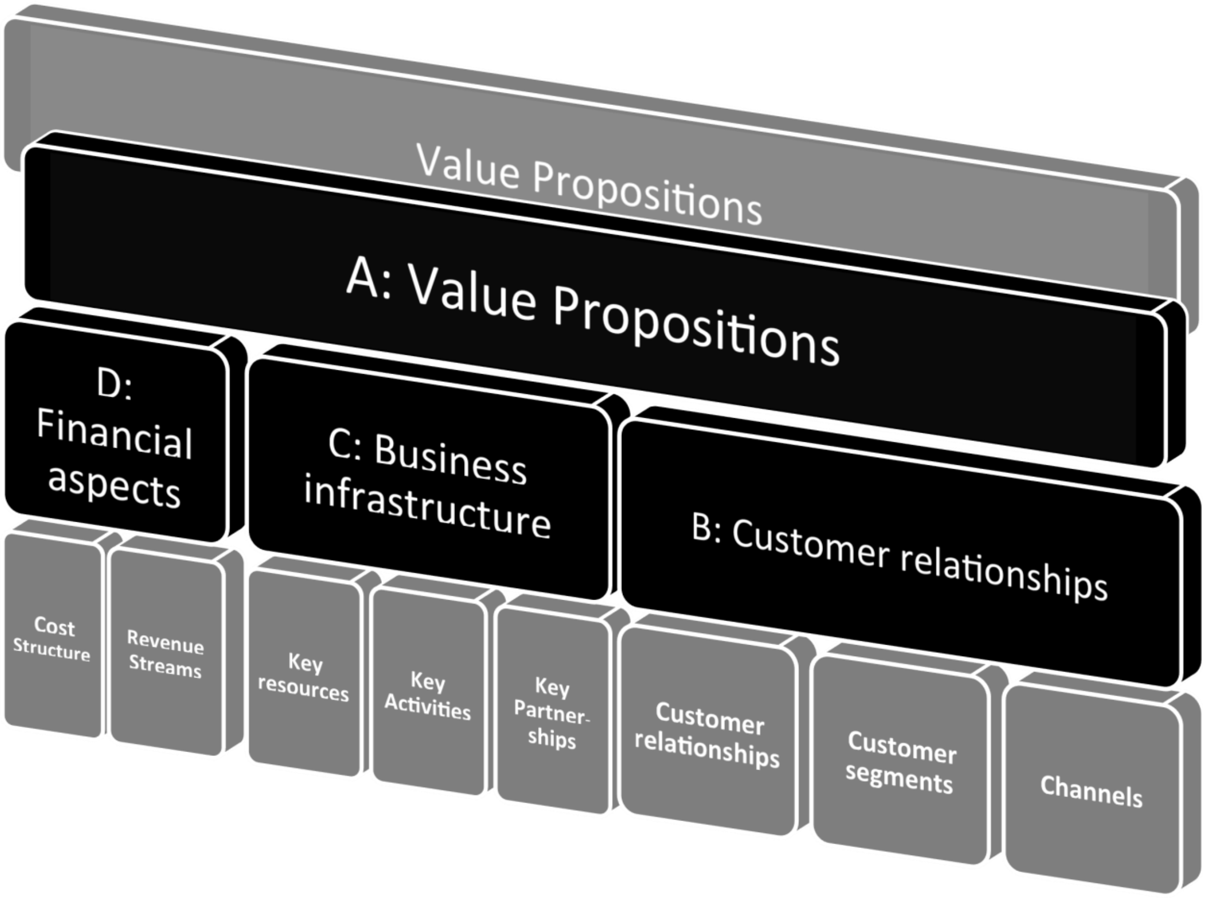

Figure 2: Business model innovation canvas, and business model pillars, adapted from Osterwalder and Pigneur's (2010) (9 building blocks shown in grey) and Schaltegger et al. (2012) (4 pillars: A, B, C and D, shown in black)

Schaltegger et al. (2012) use the four pillars of the business model from Figure 2 on one axis and use business case drivers for sustainability on the other, to show the interrelationships between them, as shown in Table 1. Business case drivers arise from the choices to be made in each business (Hahn et al., 2010), appropriate to that business's strategy (Porter and Kramer, 2006). Researchers have categorised these choices in different ways across a number of business case drivers (Porter and Kramer, 2006, Garriga and Melé, 2004, Hoffman and

Henn, 2008, Okereke, 2007, Bansal and Roth, 2000). Schaltegger et al.'s (2012) approach identifies business case drivers in six categories and cross-analyses them against observed elements of the business model. Once again, firm specific competitive advantages are not explicitly included in this framework, yet strengthening and creating these through sustainability strategies has been regarded as important by a number of authors (Porter and Kramer, 2006, Kolk and Pinkse, 2008). However, this framework is used because it uniquely combines the assessment of degrees of business model innovation with the ways in which the initiatives have addressed the core drivers of the business case.

Table 1

Framework showing interrelations between business model and business case drivers for sustainability, simplified from Schaltegger et al. (2012)

	Generic business model pillars for new, more sustainable products or services			
Core drivers of business cases for sustainability	Pillar A Value Proposition (VP)	Pillar B Customer Relationships	Pillar C Business Infrastructure	Pillar D Financial Aspects
Costs and cost reduction	Lower costs for customers	Closed-loop service systems	Lower costs through partnerships	Balancing cost reductions for customers and the business's cost structure
Sales and profit margin	Environmental superiority generates sales and profits	Increased customer retention and value per customer	Partnerships deliver or overcome market barriers	New customer relationships contribute to diversified revenue streams
Risk and risk reduction	Lowering risks to society is valued by some customer segments	Reduced sustainability risks for customers lead to higher customer loyalty	Partnerships can minimise internal and external risks	Improved risk and credit rating resulting from lowered sustainability risks
Reputation and brand value	Good corporate reputation	Increased customer loyalty from marketing sustainability	Strategic partnerships enhance company reputation	Good ratings in sustainability indices

Attractiveness as employer	Employees identify with VPs	Better customer service as a result of higher employee motivation	Partners encounter motivated employees	Increased employee retention leading to lower costs
Innovative capabilities	New VPs arise as sustainability potential is recognised	Innovative products and services improve customer retention	New activities and partnerships.	Higher innovation potential leading to an increase of shareholder value

Methodology

In order to explore sustainable consumption within the Use Chain for clothing, a case study of a subset of M&S's Plan A's initiatives were chosen. The one hundred original 2007 Plan A commitments were selected on the basis of two criteria:

1. Those that apply, at least in part, to M&S's business in the clothing system.
2. Those that are designed directly to encourage consumers to behave more sustainably, for environmental benefit, in the use of clothing. Initiatives for reducing, recycling, and recyclability of packaging, plastic bags, and clothes hangers were excluded because these are related to shoppers, rather than consumers.

Eight initiatives were selected and then reviewed by content analysis of three of the six annual 'How We Do Business' reports, together with the longer term review report 'The key lessons from the Plan A business case' (Marks and Spencer, 2012a). The first and last reports were chosen (Marks and Spencer, 2007, 2013b) so that what had been said to have been achieved over the maximum time period could be assessed. In 2010, Plan A as a whole was increased in scope and its aims restructured (Marks and Spencer, 2010), so this report was also selected for analysis, as the mid-point of the period. Key words were searched for, based on those that corresponded with the criteria in Schaltegger et al.'s framework. The key words used were ‘cost/s’, ‘sales’, ‘profit’, ‘risk’, ‘reputation’, ‘brand’, ‘loyalty’, ‘employee’, ‘staff’ (whilst not in the framework, this word seemed to be synonymous with ‘employee’ within the reports), ‘innovation’, ‘innovative’, and ‘business model’. The relative quantities of word counts within the framework were used to assess the business case rationale and business model pillar according to the framework (see Table 3 in the Appendix).

M&S had no direct involvement in this research, but Oxfam, as an NGO partner with M&S for one of the initiatives, were contacted to understand the extent of the effect of one of the initiatives on their own business model. Written responses to questions were received. The outcomes and results of each initiative were then mapped onto the framework (Table 1), by selecting the business case drivers and business model pillars indicated by the terms used in the data, related to the specific initiatives. The actions set out within DEFRA’s (2010b) Sustainable Clothing Action Plan were used to cross check the originality and distinctiveness of M&S’s initiatives against its UK competitors, in order to assess the extent of firm-specific advantage that they represented .The completed framework was used to evaluate the degree of business model innovation, by assessing the number of business model elements that had changed. Finally the initiatives were mapped on the Use Chain to assess which of them impacted across more than one of the inter-related systems.

Results

Marks &Spencer Plan A Commitments Across The Period

Table 2 shows the description of the aim of each of the eight initiatives and their status across the three selected years, together with the elements identified using the framework. Six of the eight initiatives selected were declared achieved by 2010 and the other two declared to be ‘on plan’ (Marks and Spencer, 2010). All eight nevertheless remain amongst the 180 initiatives reported in 2013 (Marks and Spencer) . The 2007 Plan A launch numbering is used as the principle reference throughout this paper (the 2010 numbering scheme is shown also in Table 2). Two of the eight (26 and 44) were restructured in 2010 to form two of the additional 80 created that year. It suggests that some of these initiatives were seen as experimental and ambitious; not all were achieved, but led to new targets later; a ‘learning by doing’ approach.

At the start in 2007, the specificity of the descriptions of the eight initiatives varies, ranging from clear, measurable, and timed targeting, to non-measurable intentions to support the work of others. Three of the initiatives that were declared achieved in 2010 were single stage activities having no element of outcome measurement (25, 27, 28, see Table 2). It is notable that each of the other commitments that remained current in 2010 had been rephrased to include both an outcome assessment standard and a specific date target. This indicates that that the need to monitor and justify results over time led to reconstruction of the aims in a way that allowed for clear measurement of outcomes.

Table 2

The eight Plan A commitments selected for analysis, their status across three years, 2007, 2010, 2012, and summary of their business driver and business model impact using Schaltegger et al.*'s* (2012) framework (the full analysis is shown in the Appendix)

2007 no	Name of initiative	Aim description (Marks and Spencer, 2007)	Status (Marks and Spencer, 2010)	Status (Marks and Spencer, 2013b, 2012a)	Elements observed using Schaltegger et al. (2012) framework
44	Customer recycling services	Introducing a range of recycling services for our customers including a project for used clothing.	Restructured into two commitments; 12.2 'Help our customers recycle 20 million items of clothing each year by 2015' and 12.12, for which 'by 2012' was added to the original 2007 wording and it was declared achieved; the Oxfam Clothes Exchange having been launched in 2008	12.2: declared to be 'On Plan', 3 million garments having been donated in the previous year, the fourth year of collaboration with Oxfam. The initiative was rebranded 'Shwopping' in April 2012 and further plans declared to buy recycled materials back from Oxfam as raw materials for new garments. 12.12: No further update since 2010. Further development through a trial with Oxfam and the British Heart Foundation for recycling furniture.	The value proposition and customer relationships were created through a closed-loop system that made it easy, convenient, and attractive for customers to recycle at M&S stores and rewarded them with a £5 voucher. More customers visited M&S on clothing return days. Customers were later able to buy a low cost wool coat that M&S had arranged through its suppliers to be made with recycled fibres. M&S created new infrastructure and new partnerships to process the items that were returned or faulty, and to collect clothes through Oxfam stores. Oxfam has a pre-existing trading division to re-sell, reuse, and recycle clothes. 'Recycle at Oxfam' appears on clothing care labels. Both M&S and Oxfam had worked previously on the

					Sustainable Clothing Action plan. M&S benefitted financially because the recycled fibres in the wool coat reduced the raw material costs and, it's assumed, there were additional sales revenues from the increased customer visits. Oxfam also benefitted from the items brought to them, raising £2.6m to 2012, arising from the increased number of collection points and audience for, and awareness of, the service.
26	Low carbon products	Developing and selling products with a lower carbon impact.	Changed to: 'Develop a low carbon products and services business, including the provision of energy and insulation services by 2010'. Became commitment 9.5. In addition, a new commitment was introduced; 9.3 'Energy Efficient Electrical Products'. Aim wording: 'Ensure that by 2015 at least 90% of our household electrical products meet a credible energy efficiency standard and improve	9.5 declared achieved; a new, separate business 'Marks & Spencer Energy' had been created in 2008, offering energy supply, solar panel installation and insulation services. 9.3 declared to be 'On plan'. The products were said to have included washing machines and tumble dryers, but M&S no longer sold these from 31/08/2012 (Marks and Spencer, 2012c)	The new M&S energy business required new infrastructure, new partnerships, created a new revenue and profit source, arising from services M&S had not previously sold. It gave customers a new value proposition through cost incentives for reduced energy use and enabled cross selling and easy access to the service for existing customers. Employees benefitted from free home insulation.

			the energy efficiency of the most energy intensive products by at least 25%'.		
27	Footprint campaign	Launching campaigns with the WWF and National Federation of Women's Institutes – to help our customers and employees understand their carbon footprint and how to reduce it.	Became commitment 9.6 and declared achieved	No further update since 2010	WI members pledged to save around 10,000 tonnes of CO_2 through the campaign; implying it enhanced M&S's reputation with this group. Public link with NGOs (in the case of WWF, on their website) enhances their reputation.
28	The Climate Group campaign	Working with the Climate Group on a major educational campaign in 2007 encouraging people to wash clothes at 30°C to cut energy use and CO_2 emissions.	Became commitment 9.7 and declared achieved	No further update since 2010	The value proposition was originally communicated as designed to help customers cut CO_2 emissions (therefore to gain loyalty from marketing sustainability) but changed in 2009 to emphasise the cost reduction customers could achieve: 'Wash at 30°C save up to 40% energy' appears on many M&S clothing care labels.
55	Cotton	Launching a sustainability strategy covering all our cotton including	Changed to 'Procure Sustainable Cotton', with the aim: 'Procure 25% of cotton from sustainable sources by 2015 and	16.15 declared to be 'On plan', having sold over 8 million items made from these materials, 3.8% of total	The activities under this commitment contributed to reducing future financial risk arising from shortage of cotton, a

approaches such as ‘Fairtrade’, organic and the international cotton industry ‘Better Cotton Initiative’ by 2008.	50% by 2020.’ This said now to include ‘Fairtrade, organic, ‘Better Cotton Initiative’, recycled fibres and other, more sustainable forms of cotton production’ (p10, 2010). (Now commitment 16.15)	cotton usage.	key raw material for M&S. The partnership with the ‘Better Cotton Initiative’ membership organisation had business infrastructure benefits, for instance, reduced risks and barriers compared to acting alone. However the Fairtrade partnership did not meet its objectives apparently due to supply chain difficulties.
This commitment overlaps with initiative 81: ‘Fairtrade’ clothing: Converting 20 million clothing garments including £5 plain t-shirts, women’s strappy vests, oxford shirts to ‘Fairtrade’ cotton – equal to 10% of all M&S cotton use’	Declared M&S had, in 2009, ‘become the UK’s largest retailer of Fairtrade certified cotton clothing’ (p12, 2010), nevertheless the initiative number 81 was declared to be ‘Behind Plan’ since Fairtrade certified cotton was estimated to have been 2.5% of all the cotton M&S used against the target of 10%. (Now commitment 17.20)	17.20 declared ‘Not achieved’ due to the complexity and availability of Fairtrade cotton in the supply chain. It was estimated that 1% of cotton used was Fairtrade, representing a reduction from 2010. The commitment is to be replaced by the overall commitment, 16.15.	

60	Polyester	Using recycled plastic (e.g. used bottles) to make polyester, rather than using oil. Make ranges of men’s, women’s and children’s polyester fleeces from recycled plastic within a year. Extend to other polyester ranges such as trousers, suits, and furniture ‘fill’ by 2012.	Became commitment 16.20 and declared achieved	Declared to have been ‘Previously achieved’. The 2011 report (Marks and Spencer, 2011) had noted that the use of recycled polyester increased from 1100 tonnes to 1900 tonnes from 2010 to 2011.	The use of recycled polyester rather than new polyester, derived from oil, is well established and is not unique to M&S.
54	Sustainable textiles	Reducing the environmental impact of the textiles we sell by trialling new fibres such as bamboo, renewable plastics, and new ways of producing fibres such as organic cotton, linen, and wool.	Changed to: ‘Reducing the environmental impact of the textiles we sell throughout our supply chain by 2012.’ Became commitment 16.14 and declared achieved	No further update since 2010	The originally worded commitment indicated a desire to mitigate the business infrastructure risk of future raw material supply issues. The later wording implied innovative supply infrastructure actions and therefore no longer sought to influence consumption directly

25	Carbon labelling	Supporting The Carbon Trust to develop a carbon-labelling scheme for consumer products.	Became commitment 9.4 and declared achieved. M&S chose not to adopt the carbon-labelling scheme.	No further update since 2010	None, as no action was taken as a result of this commitment

Selected Plan A Commitments in Relation to Business Model Pillars, Competitive Advantages and Business Case Drivers

Seven of the eight initiatives were mapped on Schaltegger et al.'s (2012) framework for cross analysis, summarised in Table 2 and shown in detail in Table 3 (see Appendix). The eighth, the development of a Carbon labelling scheme (25), was not implemented and therefore was not mapped. Looking at the pattern of the business drivers, it is costs, sales revenue, and reputation that are most prominent. Plan A as a whole was originally planned to cost £40m per year, but became cost neutral in its second, and had delivered net business benefits of £105m in total up to 2012 (Marks and Spencer, 2012a). Therefore the business case has been secured through cost savings.

As for risk, there is substantial evidence of M&S working with NGO and government partners such as Oxfam (44), DEFRA (54), WWF (27 and 55), The Climate Group (28), and The Carbon Trust (25), although not explicitly for risk mitigation. Innovation capability appears as a justification only in the more recent reports. The publicly declared five-year time horizon is said to have enabled M&S to implement more far-reaching change than would otherwise be possible on a usual shareholder-led one year planning timetable. Attractiveness as an employer did not feature strongly for these initiatives, not surprisingly, since they were selected for analysis based on design for consumer impact consumer impact. Yet internal structure, and personal incentives, changed over the period, to enable the business to become more integrated and responsive in its management of Plan A and this may have had an effect on employee motivation.

Thinking of M&S's firm-specific competitive advantages, four of the initiatives relied on, and may have strengthened, M&S's capacity to innovate through textile design and sourcing

(44, 54, 55 and 60). Three (26, 27, 28) capitalise on M&S's trusted customer reputation. Its environmental impact expertise underpins 4 of the initiatives (25, 28, 54, 55).

At a broader level, the extent of business model innovation can now be identified. Two of the commitments feature in all four columns, indicating that they each represent a high degree of business model innovation: low carbon products (26) and clothes recycling in partnership with Oxfam (44). The first of these led to a new business for M&S: energy supply and insulation services. However, there is no evidence that new business models were intended to result from Plan A at its start (Marks and Spencer, 2007). In the latest report, there is explicit reference to the need for new business models (Marks and Spencer, 2013b). Therefore incremental achievements seem to have led to the creation of new business models, rather than new business models being planned initially.

Selected Plan A Commitments in Relation to the Use Chain

Three of the initiatives act across the Use Chain (Figure 3). Firstly, processing of discarded clothing (44), produced recycled fibres to be used in new garments. M&S organised partnerships with Oxfam, its textile suppliers, processors so that recycled textiles could be reintroduced as material for new garments. M&S report increased numbers of shoppers on clothing return days (Marks and Spencer, 2012a) and give £5 voucher redeemable against a future purchase to those returning clothes. M&S communicated this initiative to consumers as 'every time you buy something new, give us something old' (Marks and Spencer, 2012b), positioning the trigger for action as the purchase of a new item, rather than the trigger being the receipt of a voucher. Nevertheless, it is reasonable to assume that some of the £5 vouchers led to new sales of clothing items. If these sales represent additional sales in the market (rather than substitution of sales that would have occurred in other retailers) then the initiative has resulted in a rebound effect of greater consumption, rather than less. However it has also created a new closed loop mechanism and new consumer recycling actions, through easy, risk-free, and cost-free mechanisms for customers.

Secondly, M&S promoted lower temperature washing. Other retail businesses such as Asda, Sainsbury, and Tesco (DEFRA, 2010b), detergent manufacturers (Unilever, 2012, Business in the Community, 2008) and appliance manufacturers (AMDEA, 2013) have done the same. However M&S's initiative to wash at 30^{o} appears to present a future opportunity, shown by the 'bubble' box in Figure 3, to partner with companies selling more energy efficient washing machines and detergents, by proactively making clothing available that is designed to be washed at low temperatures. Thirdly, they created a new business to sell energy services.

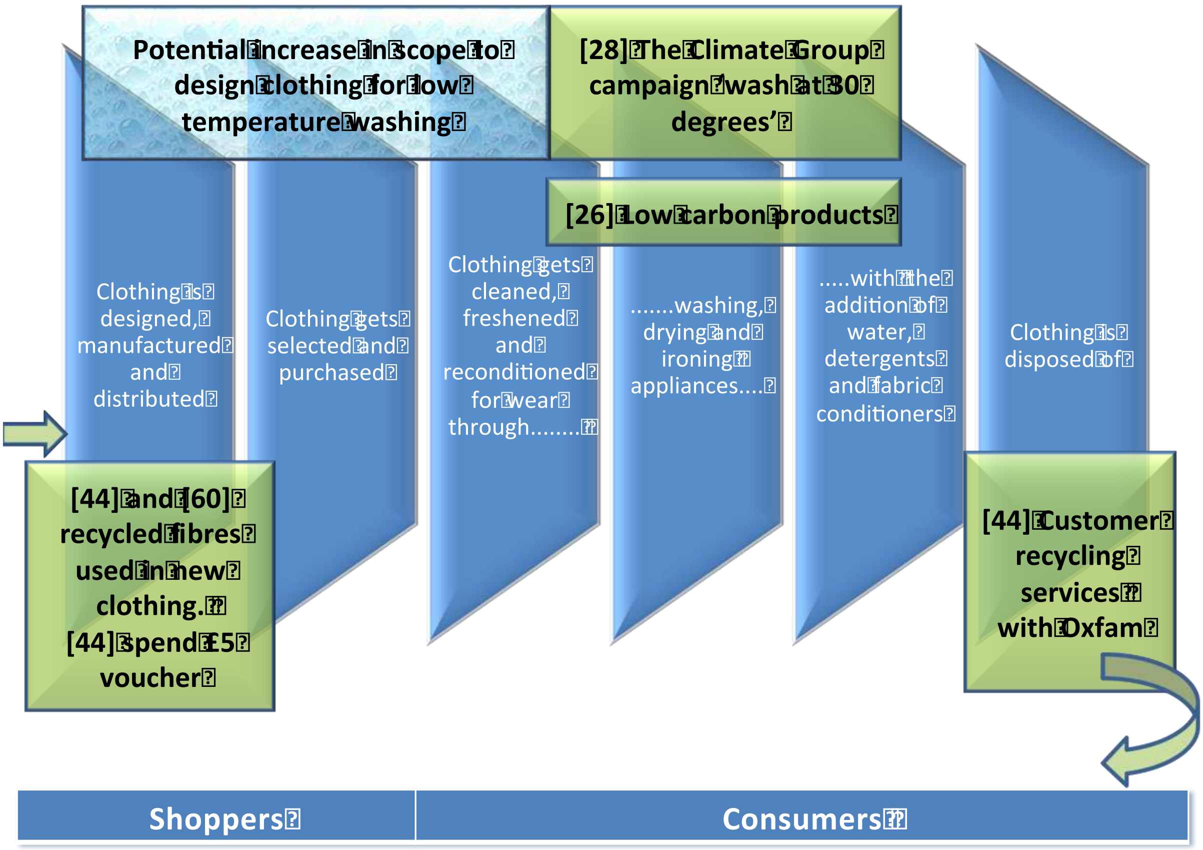

Figure 3: The Use Chain for clothing showing Plan A commitments that extend across systems

Discussion

System Innovation

None of M&S's clothing commitments exhibit fourfold or tenfold systemic improvement in environmental efficiency. Yet perhaps clothing recycling could represent the 'take off' phase towards a system innovation (p371, Kemp, 2008), since the commitment originally was to provide a service for customers to recycle their clothes, but this became a new recycle loop, even though this had not been planned at the start. Furthermore, M&S worked with Oxfam and its raw material suppliers as partners, to design and encourage new consumer practice, to lead and create a new market (for clothes using the recycled material), and devise a new infrastructure of service and provision. This analysis has shown examples of positive outcomes from 'learning by doing' within an established large consumer business.

M&S's commitment over a long period, and adjustments that it has made to its own organisation to facilitate the further development of Plan A, show that an established business can develop new business models in the interest of achieving long term sustainability goals. Whilst many reasons have been given for regime actors not seeking system change (Elzen et al., 2004), there evidence here that M&S have not felt entirely constrained by these. In this case, business model innovation took place as a result of initiatives being taken and developed over the years, not as an explicitly declared intention at the start.

The Use of the Analytical Framework

Three points can be drawn from the use of Schaltegger et al.'s (2012) framework. Firstly, it proved useful for categorising the elements of the initiatives across both business case drivers and business model pillars. This enabled two new business models to be identified by looking across the pillars, yet M&S's core clothes retailing business model has remained its main sales and profit driver. It is not that this business model has been redesigned, but added to.

This suggests that further theoretical approaches would be of value, to conceptualise degrees of business model innovation.

Secondly, by identifying where M&S has used its established firm-specific competitive advantages, this paper has also identified difficulties for other retailers who may seek to follow their approach. However, the framework lacks a way to recognise existing competitive advantages on which innovative capability can be built further. Thirdly, an limitation of the use of this framework for only some of the initiatives in ‘Plan A’, is that the individual initiatives are merely part of the whole Plan A picture, to which business case drivers might be attributed by M&S within the reports, rather than to individual initiatives.

Separately, the novel Use Chain framework has identified activities and further opportunities across a number of inter-related systems in clothing. It has highlighted new opportunities for clothing businesses to work in partnership with other businesses across the chain to reduce consumption emissions. It serves also to emphasise the critical role of retailers within and across each of these systems; this has not previously been identified in this way.

Conclusion

This paper acknowledges the leadership shown by M&S and its capability in moulding its sustainability initiatives over time, through learning from its results, within a strong, transparent and coherent framework. M&S itself does not believe that unit volume consumption will decline, yet it declares that it will continue to seek closed-loop and service-based solutions for the future (Marks and Spencer, 2012a). As the market leader in the UK, the firm has undertaken ambitious environmental goals and built new business models. This is contrary to the predictions of many researchers. It has not been wholly trapped in a system, as Tukker et al. (2008) describe it, but has found ways to start to change within a system, by taking a long term perspective and seeking to influence consumer behaviour.

Whilst M&S has seen business case benefits from the strategic choices it has made through Plan A, as Porter and Kramer (2006) predict for individual businesses, M&S's competitive advantages make it less valuable for competitors to imitate the initiatives, serving as barriers to those competitors participating in system change. For wider system change, it would be beneficial if these barriers could be overcome. Therefore perhaps the role of government is to recognise when businesses have created a new business model for a more sustainable consumption system and subsequently to support the system's continuing development through finding ways to make it attractive for other businesses to take part.

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Appendix

Table 3

Mapping seven selected initiatives from Marks and Spencer Plan A (Marks and Spencer, 2007, 2010, 2013b, 2012a) on Schaltegger et al.'s (2012) framework.

	Generic Business Model Pillars			
Core drivers of business cases for sustainability	Value Proposition	Customer relationships	Business infrastructure	Financial aspects
Costs and cost reduction	Lower energy costs for consumers (26 and 28). The 'Wash at 30°' campaign was repositioned in 2009 to emphasise the money saving opportunity rather than the CO_2 emissions saving.	Clothes recycling enabled customers to get £5 voucher redeemable against a future purchase of over £35 and enabled M&S to sell a low cost wool coat (44).	Waste wool from donated and faulty garments reprocessed within the supply chain (44).	Use of recycled wool in a new design of women's coat enabled cost reduction in raw materials (44).
Sales and profit margin	Increase sales encouraged by voucher redemption having recycled clothes via M&S stores and Oxfam (44).	M&S benefitted from increased numbers of customers on clothing return days (44).	Low carbon products, services for energy supply, other services through M&S Energy, a new business set up in October 2008 in partnership with Scottish and Southern Energy (26).	Cross selling the new M&S Energy service generated new profits and diversified M&S's revenue stream (26). New sales revenue from additional customer visits on clothing return days (44)
Risk and risk reduction		Risk-free recycling	M&S predict raw material supply issues under	

			climate change therefore Plan A helps to ensure future raw material supplies (54)(55).
Reputation brand value	Being seen to encourage recycling of clothes through the Shwopping initiative (44) Being seen to reward consumers for their household energy reduction (26). Footprint campaign (27).	Footprint campaign (27). The Climate Group campaign to wash at 30^{o} (28).	Footprint campaign (WWF and WI) (27). Increased visibility for Plan A through network of Oxfam stores (44) and for WWF through the linked website (WWF, 2013) (27). Further communication benefits for Oxfam on clothing care labels (60) and £2.6m raised for Oxfam from the scheme from launch to 2012. Contribution to DEFRA’s Sustainable Clothing Action Plan (54). Use of recycled polyester from bottles instead of oil, for polyester garments, and fill (60).
Attractiveness as employer			Footprint campaign (27) and free home insulation (26) for employees both enhance the effectiveness

			of Plan A itself.	
Innovative capabilities	The initial Clothing Exchange days with Oxfam were innovative (44). The second phase of clothes recycling has led M&S to create a social network for like-minded customers (44).	1. New service for customers (44) (convenient to take clothes back to Oxfam). 2. £5 M&S vouchers from energy and energy-related services increase customer retention (26).	The Oxfam partnership served to simplify the logistics for M&S in taking clothes back (44) whilst increasing the service access points for customers. New partnership with WWF (27) (55) and with Scottish and Southern Electricity (26). Closed loop system for wool and cashmere when included in new garments (44). Trialling new textile fibres (54).	M&S Energy was set up as a separate financial entity (26).

Note. Numbering shown in brackets refers to the 2007 report (Marks and Spencer, 2007)

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