
**Ethical and Green Supply Chain
Networks:
BMW Customers and BMW
Corporate Social Responsibility**

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Introduction

This proposal sets out the foundation of a research proposal into the nature of the relationships between BMW and its suppliers, with special reference to ethical considerations. It begins with a background to the study, including the research question and objectives. An initial literature review follows, providing the academic background to ethical supply chain networks in general, and the links between this topic and the research project. A research methodology is proposed for the project that is situated within the philosophy of research, with appropriate methods selected for data collection. A review of ethical issues is provided, and is followed by the proposed research project report structure and timetable.

Background and Research Objectives

Increasing numbers of people are becoming concerned as to the behaviour of business and its apparent lack of ethics. Issues such as excessive remuneration (Gow, 2008, Treanor, 2012) have resulted in customers demanding better behaviour from organisations, especially banks, which have come under severe pressure to reform following the bail-outs of 2007-2008. There has also been increasing concern as to the effect of business on the environment. Organisations are looking to create sustainable supply chains, as part of their product or service proposition. A supply chain is "a linkage or strand of operations that provides goods and services through to end-customers; within a supply network, several supply chains will cross through an individual operation" (Slack *et al.*, 2010, p.668). Many organisations are now asking their suppliers about their approach to sustainability, requiring changes to be made to enhance their green credentials (Lee, 2010, p.65), as well as maintain a relationship with the organisation concerned. This can lead to problems if the

attempt to create a sustainable supply chain does not take account of the whole supply chain, including those producing the raw materials: if these individuals are located in developing countries, their options are likely to be extremely limited in changing how they do things to create a greener, more sustainable supply chain.

Customers have high expectations of businesses where their ethical standards are concerned, however, they are frequently disappointed by the difference between rhetoric and reality:

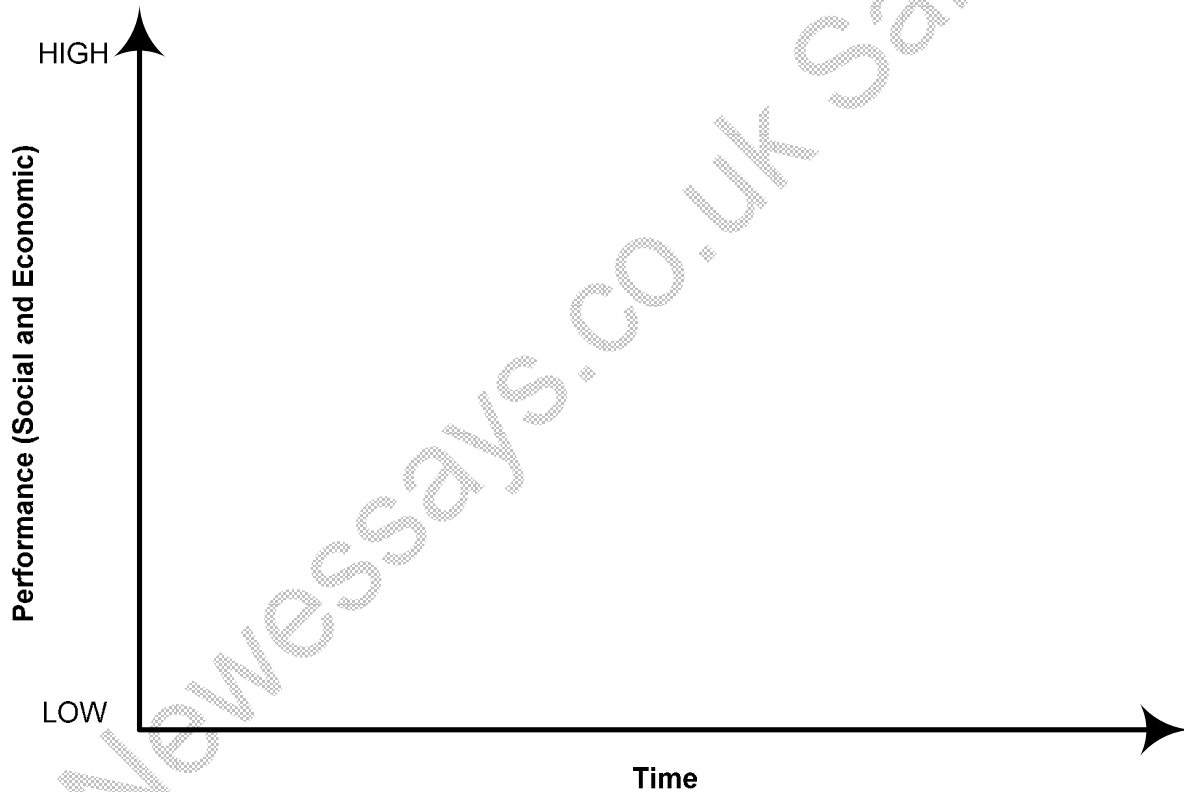


Figure One: The Performance-Expectations Gap
(Lawrence and Weber, 2008, p.25)

Against this backdrop, manufacturers such as BMW look to create and sustain supply chain networks that allow incremental improvements across the range of

activities involved in producing and selling a car, while not sacrificing quality. In setting up supply chain networks, many organisations require suppliers to meet specific standards in terms of ethical performance and sustainability. Simpson *et al.* (2007, p.28) found that initially, suppliers were more responsive to customers' "environmental performance requirements" when relationship-specific investment were increasing, yet as the level of investment increased, "suppliers become less likely to believe that they would be penalised for non-compliance with the customer's environmental performance requirements". This implies that customers need to maintain pressure on suppliers to meet the relevant sustainability standards required, and where such standards are breached, enforce the specified penalty, as this will convey a message not only to the defaulting supplier, but to all other suppliers, and help in maintaining compliance.

This project aims to determine whether organisations can and do insist that their suppliers operate in an ethical, sustainable manner, before a relationship can be forged between them. The company to be investigated is Bayerische Motoren Werke AG (BMW Group) with a specific focus on the UK. The research question to be answered is:

How Important to BMW Customers is Their Focus on Corporate Social Responsibility and Sustainable Supply Chains?

This question is broken down into three specific objectives:

1. Do potential and current customers know about the suppliers of BMW's contribution to BMW's corporate social responsibility (CSR)?
2. How do potential and current customers react to knowledge of the implementation of CSR by BMW's suppliers?
3. Would customers consider it important to conduct research into BMW's suppliers' CSR?

Initial Literature Review

To provide a sound foundation to the proposed study, it is necessary to investigate the following areas within the literature:

1. How BMW Group engage with CSR and sustainability within their supply chains
2. What relationship BMW have with their suppliers and how CSR and sustainability requirements affect that relationship
3. How BMW Group provide information concerning CSR and sustainability, both theirs and their suppliers', to their customers, what impact they intend it should have and whether it actually fulfils that intention.

CSR, Sustainability and BMW

There are several definitions of corporate social responsibility. Lawrence and Weber (2008, p.543) define it as "the idea that businesses should be held accountable for any of its actions that affect people, their communities and their environment". Sustainability is defined as "a characteristic of processes that are meeting humanity's needs without harming future generations" (Krajewski *et al.*, 2010, p.649)

from an operations' perspective, with sustainable development from a business ethics' perspective being "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Lawrence and Weber, 2008, p.551). In 2008, BMW were one of the world's most sustainable companies (News, 2008), indicating that the company takes sustainability seriously. BMW were top of the Dow Jones Sustainability Index for the automotive industry for the third year running, and claimed to be "the only company in the automotive sector to have made the sustainability indexes every year since their creation" (News, 2008). BMW had achieved in several areas of production, including efficiency enhancements and the development of hybrid technologies (News, 2008). There was an issue surrounding the high CO₂ emissions from their premium cars, however, it was noted that in reducing its overall carbon footprint, BMW had also offset their cars' emissions.

In 2010, BMW won first prize in the "Brands and Branding Intelligence" award for top brand in cars. One of the key messages within the case study that set out the BMW brand and its components, was the focus on what BMW call "EfficientDynamics Technologies" which ensures a focus on innovation that underpins "the sustainability of performance motoring" (Brands and Branding Intelligence, 2010, pp.128-129). The combination of several aspects of the driving experience conveyed by BMW create an authentic brand with specific messages to the consumer concerning "design, styling, technical innovation, comfort, safety, performance and aesthetic appeal" (Brands and Branding Intelligence, 2010, p.129).

BMW have published several sustainability reports, with three being available through the web site. The first was published in 2005-2006, with a group focus, the second in 2008 with a UK focus and the third in 2010 covering the BMW group. This suggests that rather than sustainability being considered on a piecemeal basis within each country where BMW is based, the focus is now on a global sustainability that crosses geographic boundaries. This view is confirmed by the "Dear Reader" page of the report (BMW, 2010, preface) which states that all employees "are working to achieve further progress across the entire value chain ... for our business and also for our partnerships and our relationships with all stakeholders" (BMW, 2010, preface). The 2010 report is substantial, at 130 pages, and focuses on five areas:

- Sustainable operations
- Product responsibility
- Group-wide environmental protection
- Employees
- Society.

(BMW 2010 p.1)

BMW make the assumption that their stakeholders are interested in such things as vehicle efficiency, the sustainability of production processes, alternative mobility formats and sustainable supply chains (BMW, 2010, preface). This implies that those who purchase BMW cars are sophisticated consumers who are in a position to consider such things when buying their cars, unlike many others who will potentially only look at vehicle efficiency.

BMW Supplier Relationships

Supply chain management is “the synchronisation of a firm’s processes with those of its suppliers and customers to match the flow of materials, services and information with demand” (Krajewski *et al.*, 2010, p.344). Supply chain design involves “designing a firm’s supply chain to meet the competitive priorities of the firm’s operations strategy” (Krajewski *et al.*, 2010, p.344). Managing stock levels requires expertise in matching supply with demand such that demand can always be met, but stocks are not left unused for prolonged periods of time. Krajewski *et al.*, (2010, pp.362-363) identify the impact of the environment within which manufacturing takes place and the design features on efficient and responsive supply chains respectively. These can be used to assess the type of supply chain set up by BMW, which in turn determines the relationship required with suppliers.

Factor	Type of Supply Chain		Application to BMW	
	Efficient	Responsive		
Environment Conditions	Demand	Predictable, low forecast errors	Unpredictable, high forecast errors	BMW will manufacture stock to fulfil orders around the world, making specific models available in different countries dependent upon customer preferences. This would suggest an efficient supply chain, although the product itself, BMW cars, are high value, which suggests small amounts of stock with the option of requiring stock urgently to fulfil showroom orders.
	Competitive Priorities	Low cost, consistent quality, on-time delivery	Development speed, fast delivery times, customisation, volume flexibility, variety, top quality	
	New-Service/Product Introduction	Infrequent	Frequent	
	Contribution Margins	Low	High	
	Product Variety	Low	High	
Design Features	Operation Strategy	Make-to-stock or standardised services or products, emphasise high volumes	Assemble-to-order, make-to-order or customised services or products; emphasis variety	BMW may require both make-to-stock and assemble-to-order, depending on customer demand. BMW therefore need a low capacity cushion, with an efficient supply chain for the majority of its cars, and a responsive supply chain for customised cars that include multiple features that would not normally be combined in a "standard" BMW. Quality needs to be consistent and high, reflecting both efficient and responsive supply chains.
	Capacity Cushion	Low	High	
	Inventory Investment	Low; enable high inventory turns	As needed to enable fast delivery time	
	Lead Time	Shorten, but do not increase costs	Shorten aggressively	
	Supplier Selection	Emphasise low prices, consistent quality, on time delivery	Emphasise fast delivery time, customisation, variety, volume flexibility, top quality	

Table One: Efficient and Responsive Supply Chains: Environments and Design Features for BMW
(based on Krajewski *et al.*, 2010, pp.362-363)

BMW's supply chain appears to require elements of both efficient and responsive supply chains, reflecting the luxury nature of the product that has significant options available to the customer. Stock levels of completed cars will be relatively low, with a responsive element of the manufacturing plant ready for customising cars based on customer demands.

Support Processes

Figure Two: External Supply Chain Linkages
(Krajewski *et al.*, 2010, p.379)

Integrated supply chains aim to avoid disruptions to the supply chain and require both functional and organisational integration, which can take some time (Krajewski *et al.*, 2010, p.378). One of the key functions of integrated supply chains is that to enable closer working between suppliers, customers and the organisation supplying the product/service, which allows flows of services and materials to improve to everyone's benefit (Krajewski *et al.*, 2010, p.378). In addition, it is important that the organisation understand its supplier organisations fully, including strengths, weaknesses and capacities, and involve them in the design process for new products and services (Krajewski *et al.*, 2010, p.379).

The supplier relationship process consists of five major processes: sourcing, design collaboration, negotiation, buying and information exchange (Krajewski *et al.*, 2020, p.381). Sourcing involves the selection, certification and evaluation of suppliers and the management of the supply contracts (Krajewski *et al.*, 2010, p.381). Design collaboration involves suppliers and supplied working together to create new services or products (Krajewski *et al.*, 2010, p.384). For this collaboration to be successful, all parties must trust each other so that issues can be resolved and costly problems avoided before the product or service is launched (Krajewski *et al.*, 2010, p.384). Negotiating a contract involves obtaining the required goods or services from the supplier that meets the price, quality and delivery requirements of the purchaser (Krajewski *et al.*, 2010, p.385). When the organisation doing the negotiating is significantly larger than the supplier involved in the negotiations, the supplier can simply end up accepting whatever price the purchaser will pay. Organisations such as Tesco in the UK have the sort of power that means they can tell their suppliers what the price is and the supplier is obliged to either accept the price or lose the contract. When negotiations are complete, the actual procurement process takes place, with the supplier supplying the goods required (Krajewski *et al.*, 2010, p.386). To facilitate unproblematic supply, information is exchanged between supplier and supplied, to make sure each knows where the other is in the process (Krajewski *et al.*, 2010, p.387). BMW is likely to have a relatively high degree of power when dealing with suppliers, although if any supplier provides a particular technology that only they have, BMW may find themselves being the price taker in the relationship.

BMW and its Customers

BMW's relationship with its customers is currently being compromised by product recalls relating to some of its most popular models, under all three of its brands (BMW, Mini, and Rolls Royce) (Marketline, 2012, pp.5-6). This undermines the brand image with customers who may seek replacement cars from other suppliers. Although the causes of the recalls include product quality issues associated with goods supplied to BMW such as a faulty computer circuit board, some relate directly to BMW, such as incorrectly installed battery cable covers that could lead to fires (Marketline, 2012, pp.5-6). What is interesting is that, following research conducted among BMW dealers, the two top customer concerns identified were fuel consumption and product safety (BMW, 2010, p.15). Based on this, BMW's customers might be willing to put up with product recalls because they play to an area of significant customer concern, so might not be a weakness for BMW as stated by Marketline.

The recalls identified by Marketline appear to occur within the same period:

RECALL DETAILS	MANUFACTURING PERIOD											
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Series 5, 6			←							→		
Series 5, 6, 7	←									→		
RR Phantom			←							→		
Mini Coopers					←	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	→

Table Two: BMW Group Recalls
(based on Marketline, 2012, pp.5-6)

The age of the recalled Mini Coopers is not supplied, hence the dashed line representing the period of recall. The recalled Series 5 and 6 were manufactured in the USA, as were the recalled Mini Coopers. Both the Series 5, 6 and 7 and Rolls Royce Phantom cars were imported into China, but there is no indication of where they were originally made. There seems to be a significant problem with cars manufactured between 2003 and 2009, implying that quality checking was not as robust as it should have been. If the cars imported into China were also made in the USA, it would indicate a serious problem with the manufacturing facilities there, requiring substantial remedial work to ensure that the reasons for those problems have been removed and manufacturing operations improved substantially to avoid a similar scale of recalls in the future.

Research Methodology and Methods

To be able to conduct the proposed research into the effects, if any, of BMW's CSR approach on BMW customers, a clear picture of the state of BMW's CSR must be obtained. This involves a rigorous search of the literature and business press to identify the different aspects of BMW's CSR approach and policies. Once this is obtained, the research moves towards a positivist approach to data collection and analysis in the form of survey research and the use of questionnaires to ask BMW customers about BMW's CSR policies and what the customers think about them. Positivism is "an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond" (Bryman and Bell, 2011, p.717). Survey research is "a cross-sectional design in relation to which data are collected predominantly by self-completion questionnaires or by structured interview on more than one case (usually quite a lot more than one) and

at a single point in time in order to collect a body of quantitative or quantifiable data in connection with two or more variables (usually many more than two) which are then examined to detect patterns of relationship” (Bryman and Bell, 2011, p.719). The questionnaire can only be constructed once the overview of BMW’s CSR policies has been obtained, as the questions will involve asking customers about specific aspects of CSR policy. The questionnaire can be administered either by paper-based means or potentially by online survey. The customers of BMW in Oxford will be asked to participate and, assuming consent is given, the questionnaire can be handed to the customer for completion either immediately or taken home to complete. To encourage those who take the questionnaire home to complete to actually complete the questionnaire, a url to an online version can be provided on the paper questionnaire. The alternative is to supply a reply-paid addressed envelope for the customer to use to return the completed questionnaire to the researcher.

Ethical Considerations

Bryman and Bell (2011, p.128) identify four specific ethical principles that should be addressed by a research project. These are:

- Whether there is harm to participants
- Whether there is a lack of informed consent
- Whether there is an invasion of privacy
- Whether deception is involved.

(Bryman and Bell, 2011, p.128)

They also mention data management as an issue requiring consideration (Bryman and Bell, 2011, p.139).

These principles apply to this project as follows:

Harm to Participants: this project does not involve physical harm nor does it involve psychological harm, which is the most likely for this project. Answering questions using a questionnaire does not confer harm, nor does it require a participant to compromise themselves or their principles. Although this principle is unlikely to be an issue, it will be monitored to ensure that if such a problem does arise, it will be dealt with immediately to protect the participants.

Lack of Informed Consent: Bryman and Bell (2011, p.144) provide an ethics checklist that is useful as a means of making sure that informed consent is obtained. The questionnaire will need a covering information sheet that tells them: what the research is about; the purposes of the research; who is sponsoring it; the nature of the participant's involvement in the research; how long their participation is likely to take; their participation is voluntary; they can withdraw from participation in the research at any time; and what will happen to the data obtained from them. This should ensure participants

are fully informed, although a contact point should be provided to answer any questions that may arise.

Invasion of Privacy:

Personal data will be retained in a confidential manner, even when the research is complete. As it is likely the data will be maintained and analysed using a computer, it is essential that the Data Protection Acts are followed to secure personal data. Participants need to be aware that they are not obliged to provide any information if they don't want to, which in this case means they do not have to answer any of the questions on the questionnaire.

Deception:

Deception is only an issue if the participant does not know they are the subject of the research and the researcher tries to obtain information without disclosing that it is for research purposes. In this case, the owner of the BMW garage in Oxford is aware of the research and permission has been obtained to conduct the research there. Participants will be made fully aware of the research and its purpose, and will be allowed to not participate should they wish. There is no element of covert research in this project.

Proposed Report Structure

The following structure is suggested for the final research report:

- Title Page
- Acknowledgements
- Contents Page
- Executive Summary/Abstract
- Introduction
- The Literature Review
- Research Methodology and Methods
- Results
- Discussion
- Conclusion
- Recommendations (if any)
- References
- Appendices:
 - To include a copy of the questionnaire

(based on Bryman and Bell, 2007, p.51)

Project Timetable

The following timetable is proposed:

Date	Required Activity
December 2012	Obtain approval of project proposal Write up introduction chapter for project Contact owner to arrange times for handing out questionnaires Begin literature review to identify BMW's CSR policies Check the university's research ethics policy and obtain ethical clearance if necessary
January 2013	Complete literature review Write up literature review Complete research methodology chapter Draft questions for questionnaire, including front sheet to comply with informed consent requirement
February/March 2013	Attend garage to hand out questionnaires and provide a source of information should participants have any questions. Make sure those who remove the questionnaire from the premises have a reply-paid envelope to return the completed questionnaire. Begin coding and inputting data ready for analysis
April 2013	Undertake analysis, noting results and issues arising for discussion Write up results and discussion sections of project
May 2012	Complete abstract and other presentation requirements Proof read and amend report draft as necessary Print off final version

Table Three: Proposed Project Timetable

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