Sustainable outsourcing: a practice survey and research opportunities

Ran Bhamra

Wolfson School of Mechanical and Manufacturing Engineering
Loughborough University,
Loughborough, LE11 3TU, UK

Sustainable outsourcing: a practice survey and research opportunities

Abstract

This paper addresses the issue of the sustainability imperative and its influence on outsourcing practice. The research initially finds that there is currently little or no work that explores sustainable or green outsourcing, other than in an information technology (IT) context. This lack of research on sustainable outsourcing practice in the industrial organisation sector led to the development of this research study. This exploratory study used a qualitative survey tool to investigate current industrial practice. Manufacturing managers in 57 organisations formed the survey sample. The data was analysed by comparison and clustering of responses of survey participants. This paper contributes 5 key findings that demonstrate current industrial practice which includes: 32% of respondents state that sustainability is not a factor in their outsourcing decision making; 65% of small and medium sized enterprises had never heard of the 'triple bottom line concept. Future research needs are identified and proposed highlighting that urgent development of research is required in outsourcing performance measurement and also in considering sustainability as a new manufacturing competitive priority.

Keywords: outsourcing, sustainability, manufacturing, survey, supply chains

1.0 Introduction

Outsourcing has become such an essential part of business success in today's World that one struggles to find an example of where any industrial organisation is not outsourcing some element or activity to a third party business (Quinn & Hilmer, 1994; McIvor, 2000; Hatonen and Erikson, 2007). There is considerable work that exists in the area of outsourcing process design, outsourcing risk and outsourcing models, however, consideration of sustainability within outsourcing practice has been somewhat overlooked and exhibits itself in a limited manner under the term of 'green supply chains' (Beamon, 1999; Linton *et al*, 2007). The nature of much of the work is interdisciplinary with key concepts emanating from fields such as operations management (including supply chain management), ecology, product design and economics. This paper is structured as follows. The background considers the relevant literature and sets the scope for the paper. Next, the research methodology that is used to conduct this research is explained. This is followed by the findings section which reports on the outcome of the survey study. The paper ends with a discussion and conclusions, along with a number of thoughts regarding further work in this area.

2.0 Background

2.1 Outsourcing

Outsourcing can take number of different forms and Javelgi *et al* (2009) best describe these forms as tactical, strategic and transformational. Tactical outsourcing is basic 'arms length' type outsourcing relationships such as in delivery of telemarketing, payroll processing and simple contract manufacturing. Strategic outsourcing is characterised by closer supplier relationships such as in facilities management, software development and project management service provision. Javelgi *et al*

(2009) describe transformational outsourcing as characterised by very close supplier relationships involving technical support, product design and customer relationship management, for example.

Outsourcing has been defined many times and can be succinctly understood as "an agreement in which one company contracts out a part of their existing activity to another company" (McCarthy and Anagnostou, 2004). Outsourcing can be seen to stem from the 'make versus buy' decision in manufacturing strategy and Denning (1988) suggested the four prime reasons that motivated firms to outsource were: market-seeking; competition–seeking; resource-seeking and efficiency-seeking – sustainability was never a consideration at that time. A great deal of work has been essentially concerned with the decision to outsource, what has been traditionally the operations management 'make versus buy' decision (Yoon and Naadimuthu, 1994; Probert, 1996). Stratton and Warburton (2006) looked at trade-offs for supply chains, Harland *et al* (2005) considered the risks and benefits. Three research areas that have arguably the largest impact on outsourcing theory and in particular, the make versus buy decision, are transaction cost economics (Williamson, 1979), resource dependence theory (Aldrich, 1976; Pfeffer and Salancik, 1978) and the resource-based view of the firm (Wernerfelt, 1984; Barney, 1991; Peteraf, 1993).

Transaction cost theory is categorised by the costs associated with the moment of a transaction between two parties. It involves the conditions of bounded rationality (limited information available), and opportunism. The factors which determine any decision are how frequently the service or product are used, the level of uncertainty and asset specificity (how unique is that service or product. The resource dependence theory essentially state that 'no firm is an island' and that it will be dependent, to a lesser or greater extent, on resources (e.g. skills, technology, labour) provided by external organisations. Pfeffer and Salancik (1978) said that dependency for a firm will be based on how unpredictable the external environment is and also the level to which the external organisations can control the resources. The resource based view is concerned with the ability of unique resources, internal to the boundary of the firm, to create and sustain a competitive advantage for the business. Barney (1991) defined the characteristics of such resources and they are commonly known as the VRIN characteristics where a resource must be – Valuable, Rare, Imperfectly inimitable and Non-substitutable. The resource-based view can also be interpreted as a mechanism to define the boundary of the firm itself. In summary, these three concepts of transaction cost economics, resource dependence and resource based view all conspire to inform much of outsourcing theory and practice today.

2.2 Sustainability and outsourcing

The frequently noted Brundtland report (1987) defines sustainability as "*Meeting the needs of the present generation without compromising the ability of future generations to meet their need*", and appeared to mark a watershed in thinking about sustainability beyond conventional ecological circles. One key idea that encapsulates this multi-disciplinary approach is the 'triple bottom line'. The Triple bottom line concept is a term originated by Elkington (1997). The triple bottom line, also referred to as *3BL* or *people, planet and profit*, argues that in order to strive for a sustainable world, business must look to embrace sustainability and the approach clarifies and ties economic gain with environmental and social benefits. The concept appears to have resonated particularly with big business and provides them with a new handle for corporate social responsibility and ethically motivated activities. The concept, although well meaning and of much potential value is not without criticism. Arguments against the 3BL concept highlight the difficulties in measuring and assessing the economic implications and gains. Further, individual and independent Country state motivations can easily ignore and bypass these issues. The triple bottom line is difficult to operationalise, as found by the study by Quak and de Koster (2007), who explored the level of acceptance of sustainability related business policies.

The existing literature in the area of sustainable or green outsourcing is very small in number. Although the IT sector in particular is well researched from an outsourcing perspective (Gonzalez *et al,* 2006), sustainability is again little investigated (Beath and Ross, 2006). This is very surprising given the magnitude to which organisations other than IT centred organisations, outsource their

activities. The distinct lack of work in this area represents clear and open water that is ready for research studies to explore. However, there is a growing body of work in the closely associated field of *green supply chains* (Florida, 1996; Lamming and Hampson, 1996; Beamon, 1999; Fiksel, 2006; Lobel, 2006; Linton *et al*, 2007). An interesting focus of research in the green supply chain field is that of reverse logistics (Sasikumar and Kannan, 2008; Barker and Zabinsky, 2008). Reverse logistics has been defined by RLEC (2012) as *"The process of planning, implementing, and controlling the efficient, cost effective flow of raw materials, in-process inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of recapturing value or proper disposal"*. With reverse logistics, although there are clear economic advantages to the practice, i.e. helping to extend revenue generation, there are also clear sustainable advantages: adherence to sustainable guidelines for product take-back (end-of-life recovery), and utilising returning transport that would usually travel empty. Although Mohiuddin *et al* (2010) do consider sustainable outsourcing to China, their results are somewhat limited to looking at cost reduction and the impact of outsourcing on preserving (*sustainability* in their view) local jobs. This again points to a gap in the literature and a need for investigating industrial practice. This research investigates current outsourcing practice in order to clarify the extent to which the sustainability imperative influences outsourcing decision making in the manufacturing and engineering sector.

3.0 Research Methodology

The primary aim of this study, being exploratory in nature, was to investigate practitioners' current thinking and practice regarding sustainability issues and considerations within their outsourcing. The nature of this study led to a questionnaire survey being developed. Data were collected by means of a postal survey that targeted UK based engineered product companies. The survey sample was compiled from a section of the industrial contact database held with the Wolfson School of Mechanical and Manufacturing Engineering at Loughborough University. Table 1 shows the survey company characteristics.

3.1 Survey instrument

Following the survey instruments construction, it was piloted in two organisations and with two academics, after which suitable minor amendments were made. The survey was sent to managers in 150 companies with 57 responding. This represents a 38% response rate. This level of response was achieved due to follow-up telephone calls being made to the managers directly, one week following the posting of the questionnaire. The respondents were mainly manufacturing managers and other senior management team members who would be aware of sourcing practice and policy. The questionnaire consisted of two parts, A and B. Part A captured the outline and contextual data pertaining to individual business units. Part B investigated the detailed and specific questions pertaining to sustainability within outsourcing practice.

3.2 Data collection and analysis

The unit of analysis was the "business unit". According to Griffin (1990), the business unit concept is where a company or its division can operate within a particular industry and can have its own specific strategy and objectives. Based on the earlier work of Miles and Huberman (1994), Robson (1993) provides a set of rules for dealing with the analysis of qualitative data. Robson (1993) advances the notion that there is no 'right' way of analysing this type of data but one should be systematic and organised. Furthermore, the main tool in analysing qualitative data is comparison. The data in this study was clustered around the answers obtained to the survey questions. Secondary data was collected primarily in the form of reviewing respondent company websites.

Table1. Survey company characteristics

4.0 Findings

4.1 Sustainability is not a key driver for outsourcing

The question of what are the key drivers for outsourcing is one that has been asked previously in other studies (Lau & Zhang 2006 and Chen 2008, Mohiuddin *et al* 2010). However, the Author chose to ask it again within the context of this study – manufacturing and sustainability. Perhaps not surprisingly, the results appear in close proximity to earlier studies inasmuch as cost saving is the primary driver for outsourcing. Table 2 below shows the top five outsourcing drivers noted by the survey respondents, in order of frequency. Here, respondents were asked to list what they believed their main reasons for outsourcing were. The answers were compiled into this table to reflect the frequency of responses. Cost reduction was by far the strongest driver. No one respondent mentioned sustainability as a key driver in their outsourcing decision making.

Table 2. Key outsourcing drivers

In a secondary but early question in the questionnaire, the survey sample was asked whether and to what extent sustainability was a decision factor for them, as related to outsourcing decision making for their business (Table 3). Almost one third (32%) survey respondents said that sustainability did not play any part in their outsourcing decision making and 11% saying that sustainability was really only an issue for their suppliers. However, 57% responded by saying that sustainability could sometimes be a factor and that it was becoming more important. This resonates with the Mohiuddin (2010) study in that the top drivers for outsourcing were cost reduction and growing revenues. Likewise with the study by Beath and Ross (2006), who found that cost saving and flexible capacity were the top priorities in outsourcing decision making. It is interesting to note that even as recently as 2008, reporting on the top ten most urgent areas for outsourcing research (Busi and McIvor, 2008), sustainability was not on this list.

Table 3. Sustainability as a factor in outsourcing decision making

4.2 Drivers or potential drivers for pursuing sustainability agenda as part of outsourcing initiatives

The survey participants were asked what motivated them if they were currently following some sustainability agenda regarding their outsourcing or, what they would consider to be important if they did so in the future. Table 4 shows that cost related issues are the most important to businesses. Reducing cost was an activity that all the respondent organisations in the survey were currently pursuing; however, they did not always recognise it as purely a sustainability issue. Reducing energy usage and the costs associated with processing materials were the main vehicles for cost reduction.

Waste reduction was also high under the generic cost reduction heading. The second largest driver for pursuing the sustainable agenda was if the business was required or pressured to do so by their customer. Here, 47% of respondents said they were following sustainability issues because their customer base required it. The third most important driver was that businesses thought that following a sustainability agenda was beneficial to the future development of their business. The mechanisms that that Companies have for ensuring that they are following sustainable regimes with their products are essentially those of reducing material usage (a productivity factor) during production. It does appear that sustainability of outsourcing is a low priority afterthought in operations management. By espousing how they were involving themselves with sustainability and its close associations with being socially aware and environmentally conscious, they believed that they appear more appealing to both potential customers and associative businesses. This issue of 'greenwashing' is discussed in section 4.5. Closely related to this driver, 25% of the survey sample respondents stated that sustainability was important from the perspective of sales, marketing and promotion. Organisational websites and promotional material highlights the sustainable attributes of the businesses. Secondary data (observational) showed that even those responding organisations that did not fully support the sustainability agenda (from their survey responses), still had a notable mention of sustainability associations on their business websites. The last of the top 5 sustainable outsourcing drivers is ethical and socially responsible behaviours with 7% of the survey sample claiming that they are currently and actively following this as an important policy.

Table 4. Sustainability drivers for outsourcing

4.3 Limited awareness of the triple bottom line

One of the major rationales for encouraging sustainable practices should be the triple bottom line perspective. The results show that the sample comprised of 12 large organisations and the rest, 45, were small and medium in size. However, as the results in table 5 below show, there is a considerable lack of awareness amongst the survey sample. Where there is awareness of the triple bottom line within a company there is also limited activity in pursuit of such ideals.

Table 5. The triple bottom line (3BL)

Out of the large firms, 92% claimed to be aware of the triple bottom line and its basic principles, 1 large firm had not heard of the triple bottom line. Of the SMEs, 65% (29 firms) had never heard of the triple bottom line concept. However, of those SMEs that were aware of the concept, 22% said they were pursuing or trying to pursue 3BL goals. From the overall sample (57 firms) 47% of respondents were aware of the triple bottom line and 30% claimed to be following some if not all the principles of the concept.

4.4 Sustainability performance measurement

The sample was asked about how sustainability (if relevant to their business) was measured and assured. The questions considered the respondent business firstly as a product or service supplier and secondly as a purchaser of outsourced product or service. Firstly, respondents were asked the question; "Does your customer have requirements regarding your sustainable credentials or performance?" A clear majority of the sample (76%) answered no. This was followed by the question; "If yes, does your customer have any measures that judge your sustainable performance?" Here, only 5 (9%) firms said that they were committed to sustainable practices due to environmental legislation and requirements from their immediate customers that the business has a sustainability policy.

The second part of this questioning next asked; "Do you have requirements regarding your supplier's sustainable performance?" 60% of the large firms and 24% of the SME firms responded positively by saying that they did impose some contractual obligations on their outsourcing suppliers to pursue sustainable practice. However, in answers to the following question; "If yes, do you have any measures that judge your suppliers performance?" only 7% of the sample (both large and SME) said that they actually monitored or measured the sustainable performance in some way. These findings echo earlier work by Jiang and Qureshi (2006) who found a "lack of objective metrics for outsourcing results evaluation". These results appear to indicate that although firms believe they are talking steps towards recognising sustainability demands from the customer and acceding to them. However, in reality the real responsibility is passed upstream along the supply chain, with little oversight as to the effective adherence to sustainable practice. Interestingly, Linton et al (2007) did recognise that the very nature of sustainability "introduces less quantifiable considerations relating to the natural environment and in some cases social issues".

4.5 Greenwashing

Greenwashing is the term given to the practice of businesses to market and promote themselves as socially and environmentally conscious and sensitive, when the reality will be far from truth. Organisations such as large petroleum, soft drinks and fast food of course regularly use these techniques in attempts to change perceptions, but the survey found that this practice is also common within the industrial sphere, even when the end user is still only a product integrator. The survey firms' websites were observed and compared to their respondents' answers to survey questions. The result being that 95% of the survey firms' websites contained material pertaining to their apparent sustainable credentials, which particularly contrasts with answers relating to sustainability drivers and performance measurement. Interestingly, when compared to the IT outsourcing sector, a current report from Forrester (2011) asserts that in the near future corporate sustainability will be critically dependent upon IT as an enabling technology. The forward thinking website from Johnson Controls (Johnson controls, 2011) even promotes and provides guidance on good sustainable practice. From the research overall however, it does appear that IT is perhaps not yet fully utilised to support sustainable practice and Greenwashing is very widespread.

5.0 Discussion and conclusion

This research finds that sustainability is not a high priority business consideration when firms are considering outsourcing activities. The main drivers are still cost and what the customer demands may be (which of course may be sustainability focused - ethically sourced and produced coffee such as FreeTrade, for example). However, as cost was the main driver for many business initiatives, practitioners usually assigned any cost saving initiatives under the sustainability banner. Cost saving through the reduction of energy usage and transport costs accounted for the majority of initiatives. This finding resonates with earlier work such as Lau and Zhang (2006) who found that drivers were

economic (costs), strategic (business acceleration) or environmental (skills and capability of supplier). Likewise, the study on future trends by Kakabadse and Kakabadse (2005) also did not note a sustainable or green movement in outsourcing.

Almost half of the survey sample said that sustainability would become a major issue in their outsourcing decision if their customers demanded it. This amplifies the fact that, by inference then, 43% of the survey respondents asserted that they were under no pressure from customer requirements to provide any sustainable element to their sourcing or product or service provision. This is somewhat surprising due to the apparent tidal wave of popular opinion that suggests we should all be doing more with regards to sustainable practice. However, an earlier paper anticipating future trends in outsourcing practice (Hatonen and Erikson, 2007) did not even make mention of sustainability issues whatsoever.

Sustainability was extremely low (7%) as an agenda setting criteria for outsourcing, but was seen as very beneficial (25%) as a marketing and business development lever. Companies believed that their business would prosper when sustainability was utilised as part of their proposition. Sustainability is closely associated with business reputation, business development and customer perceptions. This led to identification of what has come to be known as Greenwashing. Interestingly, these results can be viewed in two opposing ways; one shows a cynical business approach where only the bare financial economic argument is valued; the other is that managers are making rational decisions in order to remain competitive – it's what the competition are doing! There is no space for altruism here. What of the triple bottom line? This study shows that there is a lack of awareness amongst the wider industrial community (particularly SMEs) about the triple bottom line concept. The majority of larger firms (92% of all large firms in the sample) did have knowledge about the principles with 58% claiming to follow some of the principles. Overall, 30% of the sample claimed to be practicing triple bottom line guidance. However, if they were outsourcing to lower cost economies such as China or India for example, the question of whether they were completely aware of the social impact of their business is not known. In other words, was the outsourcing supplier exploiting child labour, or perhaps disregarding environmental issues? This is an important point in ensuring sustainable outsourcing and one that the survey respondents could not answer conclusively. The implication here is that a sustainable outsourcing policy by one firm in a supply chain may be too weak to ensure compliance along the chain itself.

Outsourcing is born out of the 'make versus buy' decision process as part of the operations management strategy. Stratton and Warburton (2006) consider the trade-off implications of global supply chains, but no mention is made of the sustainability as a potential driver or consideration within the outsourcing decision. The focus tends to favour the 'cost versus response' outcome. This raises an important point regarding the nature of the make versus buy decision and manufacturing's competitive priorities themselves – should sustainability be a key competitive priority in today's environment?

Performance measurement is a key factor in ensuring whether or not a claimed sustainable policy or activity is being complied with. In the majority of instances sustainability in outsourcing practice was not heavily imposed by outsourcing firms, where only 7% of the survey sample noted that they were measuring sustainable performance. Performance measurement was only led by drivers such as customer requirements or government legislation such as the Waste Electrical and Electronic Equipment Directive (WEEE - introduced in 2007 in the UK) and ISO 14001:2004 series of environmental standards. The measurement of sustainability is a difficult task due to the nature of what is being measured – particularly where environmental impact is to be demonstrated. Beamon (1999) produced a table of key 'green' performance measures based on previous work by other Authors. Measures can include resource use, product remanufacture, reuse and recycling, life-cycle assessment, economic impact and waste emissions.

Another finding is that responsibility for sustainability in outsourcing is being passed on to their outsourcing supplier organisations by some firms (11% of the sample). There were a small clutch of businesses within the sample that had very little interest in sustainable issues with focus only on their

financial returns. This may be their culture, they may have been interviewed at an inconvenient time thus were not interested, or perhaps their focus stemmed from the difficult economic climate meaning that lower priority concerns were not issues. This does raise questions about whether outsourcing can be completely sustainable at all when businesses are passing on costs and the responsibility for sustainable practice back upstream along the supply chain.

Interestingly, apparent leadership in sustainable outsourcing is being shown by the management consultancies, such as Accenture, IBM, Cisco, PricewaterhouseCoopers amongst many others. They make bold promises like "gain 10-20% return on sustainable IT" (Capgemini, 2011) for instance. This is the perhaps the clearest indication that sustainability is rising up the commercial agenda and will be of high importance. Unless businesses can embrace concepts such as the triple bottom line there will always be clear conflict between sustainability considerations and business competitiveness or profit. Some ways in which this apparent conflict can be negotiated was demonstrated by two different businesses in the survey. The first business, a large firm, focused on their supply chain and used order placement and order tracking systems and tried to optimise them specifically for sustainability aspects i.e. shipping distance, transport method, and fuel and so on. The second firm, an SME was led by a strong leadership team that put in place a management policy that instigated and tried to collaborate with outsourcing organisations with proven sustainability agendas.

6.0 Further work

This research suggests a number of different possibilities for future research activities and the possibility to utilise a range of research methods that include survey, case study, hypothesis testing and statistical methods. The area of sustainable outsourcing performance measurement and assurance is much in need and the framework as suggested by Beamon (1999), although dated, is still a good starting point. Effective measurement of delivered sustainability by outsourcing suppliers should be developed. These measures and management approaches will take in to account the respect for the outsourcing supplier and development of long term relationships that foster mutual advancement. The survey analysis shows that less than half of the survey sample was under pressure from their customers to go more 'sustainable', further investigation of this issue would be welcome. In addition to this, business processes should be developed by advancing the notion of "design for sustainable outsourcing" thinking amongst researchers and practitioners. This new avenue for research could integrate multiple existing research areas such as supply chain, product design, matching internal to external processes and also legislation. Although outsourcing tools are common, particularly in decision making, Frameworks, tools and techniques that aid outsourcing managers in developing outsourcing suppliers' movement towards effective and genuine sustainability practice and policy, should be developed. This will assist practitioners bridge the gap between what their customers (and society generally) demand and how they can establish such practices. This can be done in two ways; incentives and disincentives (such as take-back). If we remember that outsourcing stems from the operations management 'make versus buy' decision, the Author believes that *sustainability* should now be developed into a new and pertinent competitive priority (or trade-off) for manufacturing strategy. In making sustainability a strategic issue, it will undoubtedly raise its profile beyond short-term cost focused issues – the Author sees this specific concern as a key area for future work. In conclusion, the Author concurs with Linton *et al* (2007) when they state that "while sustainability provides an overarching framework for much of the past and ongoing environmental research in operations, sustainability moves beyond current practice".

References

Aldrich, H., 1976. Resource dependence and interorganizational relations: relations between local employment service office and social services sector organizations. *Administration and Society*, 7 (February), 419-455.

Barker, T.J. and Zabinsky, Z.B., 2008. Reverse logistics network design: a conceptual framework for decision making. *International Journal of Sustainable Engineering*, 1(4) 250 – 260.

Barney, J., 1991. Firm Resources and Sustained Competitive Advantage, *Journal of Management*, 17, 99-120.

Beamon, Benita M., 1999. Designing the Green Supply Chain. *Logistics Information Management*, 12, (4), 332-342.

Beath, C. M., Ross, J. W. 2006. Sustainable IT Outsourcing Success: Let Enterprise Architecture be your guide. *MISQ Executive*, 5(4), 181 – 192

Brundtland report, 1987. *Our Common Future*. Report of the World Commission on Environment and Development, World Commission on Environment and Development. Published as Annex to General Assembly document A/42/427

Busi M, McIvor R, 2008. Setting the outsourcing research agenda: the top-10 most urgent outsourcing areas. *Strategic Outsourcing: An International Journal*, 1 (3), 185 – 197.

Capgemini, 2011. *Sustainable IT services*. Available from: http://www.uk.capgemini.com/services-and-solutions/outsourcing/sustainable-it/overview/ [Accessed 26 November 2011].

Chen. Y., 2008. The Driver of Green Innovation and Green Image – Green Core Competence. *Journal of Business Ethics* 81 (3), 531 - 543.

Dunning, J.H., 1988. *Explaining International Production*. Unwin Hyman, London.

Elkington, J., 1997. *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*, New Society Publishers.

Fiksel, J. 2006, Sustainability and resilience: toward a systems approach, *Sustainability: Science Practice and Policy*, 2 (2), 14-21.

Florida, R., 1996. Lean and green: the move to environmentally conscious manufacturing. *California Management Review*, 39(1), 80-102.

Forrester, 2011. *Corporate Sustainability Will Depend On IT Solutions: Six Types Of IT For Sustainability Solutions Drive Sustainable Performance*. Available from: http://www.forrester.com/rb/Research/corporate_sustainability_will_depend_on_it_solutions/q/id/581 88/t/2

Gonzalez , R., Gasco, J., & Llopis, J. 2006. Information systems outsourcing: A literature analysis. *Information & management*, 43 (7), 821-834.

Griffin, R.W., 1990. *Management*, Houghton Mifflin, Boston, MA, USA.

Harland, C., Knight, L., Lamming, R., Walker, H., 2005. Outsourcing: assessing the risks and benefits for organisations, sectors and nations. *International Journal of Operations & Production Management*, 25 (9), 831 – 850.

Hatonen, J.and Erikson, T., 2007. 30+ years of research and practice of outsourcing - Exploring the past and anticipating the future. *Journal of International Management*, 15 (20), 142-155

ISO 14001:2004, 2004. Environmental Management Systems. Available from: http://www.iso.org/iso/iso_catalogue/catalogue_ics/catalogue_detail_ics.htm?csnumber=31807. Accessed 21 April 2012.

Javalgi, R.G., Dixita, A and Scherera, R.F., 2009. Outsourcing to emerging markets: Theoretical perspectives and policy implications. *Journal of International Management* ,15(2), 156-168

Jiang B, and Qureshi A, 2006. Research on outsourcing results: current literature and future opportunities. *Management Decision*, Vol. 44 (1), 44 – 55.

Johnson Controls, 2011. *Sustainable outsourcing: top-10 tips for success*. Available from: http://www.johnsoncontrols.co.uk/publish/gb/en/products/building_efficiency/gws/workplace_e-zine/sustainable_outsourcing.html.

Kakabadse, A. and Kakabadse, N., 2005. Outsourcing: current and future trends. *Thunderbird International Review,* 47 (2), 183-204.

Lamming, R. and Hampson, J., 1996. "The environment as a supply chain issue. *British Journal of Management*, 7 (special issue), 45-62.

Lau, K.H. and Zhang, J., 2006. Drivers and obstacles of outsourcing practices in China. *International Journal of Physical Distribution & Logistics Management*, 36 (10), 776 - 792

Linton, J.D., Klassen, R. and Jayaraman, V., 2007. Sustainable supply chains: An introduction. *Journal of Operations Management* 25, 1075–1082.

Lobel, O., 2006. Sustainable capitalism or ethical transnationalism: Offshore production and economic development. *Journal of Asian Economics*, 17, 52-62.

McCarthy , I. and Anagnostou, A., 2004. The impact of outsourcing on the transaction costs and boundaries of manufacturing. *International Journal of Production Economics*, 1 (8) , 61 – 71 .

McIvor , R., 2000. A practical framework for understanding the outsourcing process. *Supply Chain Management: An International Journal* , 5 (1) , 22 – 36 .

Miles, M.B. and Huberman, A.M., 1994. *Qualitative data analysis*, Sage.

Mohiuddin M., Su Z., and Su A., 2010. Towards Sustainable Offshore Outsourcing: A Case Study of Quebec Manufacturing Firms Outsourcing to China. *Journal of CENTRUM Cathedra*, 3 (1), 84-94.

Peteraf, M., 1993. The Cornerstone of Competitive Advantage. *Strategic Management Journal*, 14(3), 179-191.

Pfeffer, J. and G. R. Salancik., 1978. *The External Control of Organizations: A Resource Dependence Perspective*. NY: Harper and Row.

Probert, D.R., 1996. The practical development of a make or buy strategy: the issue of process positioning. *Integrated Manufacturing Systems*, 7 (2), 44 – 51.

Quinn , J.B. and Hilmer, F.G., 1994 . Strategic outsourcing. *Sloan Management Review*, 35 (4), 43 – 55.

Quak, H.J. & de Koster, R., 2007. Retailer's Sensitivity to Time-Window Policies in De Koster, M.B.M & Delfmann, W. (Eds.), *Managing Supply Chains - Challenges and Opportunities* (pp. 227-245). Copenhagen: Copenhagen Business School Press.

Robson, C., 1993. *Real World Research: A Resource for Social Scientists and Practitioners.* Blackwell Publishers, MA, USA.

RLEC, 2012. Definition of reverse logistics. Available from: http://www.rlec.org/index.html. [Accessed 21 April 2012].

Sasikuma, P. and Kannan, G., 2008. Issues in reverse supply chains, part II: reverse distribution issues – an overview. *International Journal of Sustainable Engineering*, 1 (4) 234 – 249.

Stratton, R. & Warburton, D.H., 2006. Managing the trade-off implications of global supply. *International Journal of Production Economics*, 103 (2), 667-679.

WEEE Directive, 2006. Waste Electrical and Electronic Equipment Directive. Available from: http://www.legislation.gov.uk/uksi/2007/3454/pdfs/uksi_20073454_en.pdf. Accessed 21 April 2012.

Wernerfelt, B., 1984. A Resource-based View of the Firm. *Strategic Management Journal*, 5(2), 171-180.

Williamson, O.E., 1975. *Markets and Hierarchies: Analysis and Antitrust Implications*, Free Press, New York.

Williamson, O.E., 1979. Transaction cost economies: The governance of contractual relations. *Journal of Law and Economics*, 22(2), 233-261.

Yoon, K.P. and Naadimuthu, G., 1994. A Make-or-Buy Decision Analysis Involving Imprecise Data. *International Journal of Operations & Production Management*, 14 (2), 62 – 69.

Table1. Survey company characteristics

Characteristic	Frequency	Sample %
No. of employees		
< 99	20	35
100-499	21	37
500-999	10	17
> 1000	6	11
Total	57	100
Engineering Segment		
Automotive	9	16
Aeronautical/Power	8	14
Heavy	11	19
Light	29	51
Total	57	100

Table 2. Key outsourcing drivers

	Driver	Frequency
1	Cost reduction	39
2	Accessing better/specialist skills and knowledge	27
3	Concentrate on (perceived) core competencies of business	21
4	Improve speed to market	18
5	Operational efficiency/flexibility	16

Table 3. Sustainability as a factor in outsourcing decision making

Is sustainability a factor in outsourcing?	Frequency	Sample %
Yes	9	16
Sometimes	24	41
No	18	32
Issue for suppliers	6	11
Total	57	100

Table 4. Sustainability drivers for outsourcing

	Driver	Number of sample currently pursuing policy	% of sample of 57
1	Cost driver – reducing energy usage, materials processing, waste	54	95
2	Pressure from customer	27	47
3	Important to future business development	23	40
4	Important part of marketing and promotion	14	25
5	Ethically/socially important	4	7

Table 5. The triple bottom line (3BL)

	Large	% of Large	% of sample	SME	% of SME	% of sample
Aware of the 3BL concept	11	92	19	16	36	28
Never heard of triple bottom line	1	8	2	29	64	51
Total	12	100	21	45	100	79
Following 3BL principles	7	58	12	10	22	18