



Contents lists available at ScienceDirect

Industrial Marketing Management



A systematic literature review of sustainable purchasing and supply research: Theoretical perspectives and opportunities for IMP-based research

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ARTICLE INFO

Article history:

Received 20 October 2015

Received in revised form 9 March 2016

Accepted 10 March 2016

Available online xxxx

Keywords:

Sustainable purchasing and supply

Systematic literature review

IMP

ABSTRACT

This paper evaluates and compares the theoretical lenses that underpin sustainable purchasing and supply management research. In particular, our interest is on evaluating the extent to which the IMP Interaction Approach is used to underpin or influence the focus of existing research and exploring the opportunities for further research into sustainable purchasing and supply guided by an IMP perspective. The methodology employed is a systematic literature review (Tranfield et al., 2003). A systematic search process is used to identify 1899 papers that are gradually reduced through a filtering process to 276 papers. The theoretical perspective of each paper is identified and recorded in a database along with methodology, unit of analysis and reported findings. We find that a significant proportion of sustainable purchasing and supply management papers adopt stakeholder theory, institutional theory and resource-based perspectives, however, relatively few papers rely on an IMP Interaction Approach. We evaluate the rationale for the typical theoretical perspectives adopted and discuss the potential for the IMP Interaction Approach to underpin studies of sustainable purchasing and supply management. The paper concludes by outlining future avenues of research that specify how the IMP Interaction Approach can underpin and further advance sustainable purchasing and supply research.

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1. Introduction

One of the greatest challenges to purchasing and supply management is the need to embrace sustainability. This is in part driven by an increasing number of regulations and standards, such as ISO14001 and ISO26000, that are pressuring companies to take sustainability into account in their purchasing decisions. Other drivers of sustainable purchasing and supply management include increased customer awareness and expectations, competitors that embrace sustainability or personal commitment of top management (Walker et al., 2008; Guinipero et al., 2012). Some companies embrace sustainability for their own strategic advantage, to differentiate themselves in the marketplace, and critical observers sometimes regard sustainability initiatives as little else than greenwashing (Greer & Bruno, 1996). While companies focus on delivering a return to shareholders or owners, these pressures mean that profits can no longer be at the expense of the environment and the interests of people.

Due to the trends in outsourcing, however, companies are only as sustainable as their suppliers (Krause, Vachon, & Klassen, 2009). Purchasing and supply managers are in a central position in the effort to develop sustainable supply networks. For example, there is a need to reconsider existing sourcing strategies and policies. New supplier assessment systems focused on ethical performance are emerging and companies increasingly team up with other companies and organizations, not least Non-governmental Organizations (NGOs) (Crespin-Mazet & Dontenwill, 2012), to audit and develop suppliers showing non-compliance with expected standards. Sustainable purchasing and supply management is a broad emerging concept with wide-ranging implications for both research and practice, defined as: “the consideration of environmental, social, ethical and economic issues in the management of the organization's external resources in such a way that the supply of all goods, services, capabilities and knowledge that are necessary for running, maintaining and managing the organization's primary and support activities provide value not only to the organization but also to society and the economy” (Miemczyk, Johnsen, & Macquet, 2012, p. 489).

From an academic perspective, this major challenge has spurred a strong upsurge in research on sustainable supply chain management and, within this wider field, purchasing and supply management (Walker, Miemczyk, Johnsen, & Spencer, 2012). Much of this research has addressed issues to do with pressures from many different stakeholders to implement sustainability, including customers, regulators, media and NGOs (e.g. Zhu & Sarkis, 2007), and is beginning to show the way forward for purchasing and supply managers. This focus on pressures from multiple actors in order to effect business change lends itself to an inter-organizational perspective. Consequently, it should not come as a surprise that stakeholder theory is often used as a theoretical foundation in sustainability research (e.g. Darnall, Jolley, & Handfield, 2008; Ehrigott, Reimann, Kaufmann, & Carter, 2011; Hall & Matos, 2010; Walker & Brammer, 2009).

The Industrial Marketing and Purchasing (IMP) Interaction Approach has been frequently used to study buyer–supplier relationships and their embeddedness in wider business networks (Håkansson & Snehota, 1995). The IMP Interaction Model (Håkansson, 1982) emphasizes both the short-term exchange episodes within buyer–supplier relationships and the long-term processes of mutual adaptation and institutionalization. Thus, given the inherent inter-organizational focus of the IMP Interaction Approach, especially its focus on inter-dependence amongst relationships (Dubois, Hulthén, & Pedersen, 2004; Håkansson & Snehota, 1995) and network effects (Ritter, 2000), we would expect a significant amount of research papers which apply an IMP perspective to the analysis of sustainable purchasing and supply management. Yet it is not clear to what extent IMP researchers have engaged with this rapidly emerging field and how the

IMP perspective could be used to study sustainable purchasing and supply management. This paper therefore addresses two questions:

- 1) *What are the dominant theories used to underpin and guide sustainable purchasing and supply management research?*
- 2) *How could the IMP Interaction Approach provide a useful theoretical perspective to better understand sustainable purchasing and supply management phenomena?*

The contribution of the paper is two-fold: firstly to provide a state-of-the-art review of theories used in extant sustainable purchasing and supply management research. While other literature reviews on, or related to, sustainable purchasing and supply management have been published in recent times (Gimenez & Tachizawa, 2012; Hoejmoose & Adrien-Kirby, 2012; Miemczyk et al., 2012; Mollenkopf, Stolze, Tate, & Ueltschy, 2010; Touboulis & Walker, 2015; Zorzini, Hendry, Huq, & Stevenson, 2015) most of these focus on sustainable supply chain management, treating purchasing and supply as a minor issue, if at all, and none has systematically reviewed this body of literature through an IMP lens. Secondly, the paper evaluates why and how IMP-based research might engage more fully with this research agenda, exploring how an IMP perspective would bring out new ideas in comparison with existing theoretical approaches and initiating a new IMP research agenda. Rather than simply providing a literature review, this paper therefore seeks to initiate a conceptual debate about an important new research trend that IMP researchers should arguably not only engage with but also lead.

The focus of the paper is sustainable purchasing and supply management and not sustainable supply chain management. Although varying perspectives of the relationship between purchasing and supply chain management exist, purchasing is viewed here as an integral part of the wider concept of supply chain management: what Larson and Halldorsson (2002) label as a ‘unionist’ perspective. Consistent with the wider review of the purchasing and supply management by Spina, Caniato, Luzzini, and Ronchi (2013), this means that the review presented in this paper does not claim to encompass sustainable supply chain management as a whole but only the part of the supply chain that concerns sustainable purchasing and supply management.

Our paper is organized as follows. The next section explains the systematic methodology employed in conducting the literature review. The following (third) section reports the findings from the literature review, identifying the distribution and changes in theoretical perspectives in the sustainable purchasing and supply literature. The fourth section goes into more depth with the dominant theories identified in the analysis, evaluating the relevance of each theory for the study of sustainable purchasing and supply. The fifth section compares the dominant theories and debates the potential for IMP theory to provide a theoretical basis for sustainable purchasing and supply management research, discussing how the field could be advanced by applying an IMP perspective to the study of sustainable purchasing and supply management. The final section presents the conclusions and outlines implications and limitations of our research.

2. Methodology

The data collected for this paper consists of an extensive systematic analysis of research into sustainable purchasing and supply management. In particular, we seek to identify the underlying theoretical perspectives applied in research published in respected academic journals with a view to identifying and exploring the potential for IMP theory to provide a useful theoretical lens to better understand sustainable purchasing and supply management phenomena.

Sustainable purchasing and supply management is a relatively recent, but rapidly emerging field (Walker et al., 2012), so we did not limit this review to empirical works but included conceptual papers too. The focus is on research with a management focus; we were not interested in how sustainability in purchasing and supply is

conceptualized mathematically although we did not automatically discount papers due to a particular methodology provided that they were relevant from a management perspective.

The paper attempts to synthesize a rapidly growing field of knowledge. In doing so we adopted a systematic approach to the literature search and analysis, taking on board the call for systematic reviews in the field of management “to provide collective insights through theoretical synthesis into fields and sub-fields” (Tranfield, Denyer, & Smart, 2003 p. 220). The key steps for a systematic review, as described by Tranfield et al. (2003 p. 220) and in more detail in Denyer and Tranfield (2009), include planning, conducting the review, and reporting the findings. This section details the planning and conduct of the systematic review; as the review is conducted systematically the reporting in the following section resembles that of an analysis and synthesis of the literature rather than a traditional narrative review. The process adopted in our research was similar to that followed by e.g. Spina et al. (2013) who conducted a major review of the purchasing and supply management literature although not with a focus on sustainability.

For the initial search of relevant papers we used the well-established Web of Science database for business and management. The following truncated search terms were used in combination: purchas*, procure*, sourc*, supply, supplier, network, (AND) green, social, environment*, sustainab*, responsib* and stakeholder. These were carefully chosen to ensure that as many relevant articles as possible would be included. As some relevant articles using alternative terminology might not be detected as a result of chosen key words, the search terms were used in title, keyword and abstracts. This was less efficient than just focusing on the keywords, but ensured that we captured as many relevant papers as possible. We did not specify a start date but identified the first article as published in 1978 (Gravereau, Konopa, & Grimm, 1978), tracking papers until May 2015 when the search process was completed. This search process resulted in a list of 1899 papers.

The filtering process was conducted in two stages. The initial list was first reduced by checking titles, keywords and abstracts for relevance, deselecting those that were out of scope including those that focused on non-purchasing related supply chain management, such as green logistics, and papers concerning, for example, consumer rather than organizational purchasing. All of the remaining papers were then filtered according to the quality of the journal as a way of ensuring that only high quality research would be considered. Therefore, we decided that the analysis would focus specifically on articles published in major English-language international journals. For this purpose, we chose to focus on journal articles that are included on the latest (now Chartered) Association of Business Schools (ABS) ranking (Chartered Association of Business Schools, 2015). The ABS ranking is widely used at universities and business schools not only in the UK, but also in other parts of Europe as a reference for journal quality across fields, such as strategy,

operations and technology management, marketing, and organizational studies. Although any journal list is inevitably debatable the ABS ranking is widely viewed as providing a reliable measure of research rigor and quality, building on expert evaluations by journal editors and an advisory panel as well as citation statistics. Table 1 shows the journals in which we identified relevant research papers.

We were aware that it could be argued that including only those papers published in journals listed on ABS would miss out on some good quality research, for example, in the *Journal of Cleaner Production*. However, we wanted to be consistent in this decision as otherwise many other journals, including conference and working papers, could arguably be added to the list. Focusing on ABS-listed journals, we include the top tier journals that publish purchasing and supply management research (Zsidisin, Smith, McNally, & Kull, 2007). The search and filtering process finally resulted in a net list of 276 papers.

2.1. Analysis and coding

In order to generate a clearer picture of how the field is structured in terms of theoretical perspectives, we began the analysis by searching through each paper to determine if there were any deliberate statements explaining the theoretical perspective or lens adopted. For this purpose we conducted keyword searches in the electronic copies of the papers and read those sections of the papers that were most likely to contain such statements. We found that increasingly papers do contain such explicit statements, however, this is a relatively recent trend as the majority of early papers contained very limited theory or made no attempt to explain the perspective. We therefore recorded whether papers made explicit statements or merely implied a theoretical application and we further recorded if there was any other evidence of a clear use of a theoretical approach. In fact, we found that differentiating between those papers that applied a specific theoretical perspective and those that merely contained references to the literature, was a gray area. Consequently, the research team agreed that as the specific focus of the review was on application of theoretical perspectives, either in conceptual discourse or in analysis or interpretation of empirical data, including a few references to a theory without application did not qualify as application of a theory. These papers were still included in the analysis but were recorded as not having a theoretical perspective.

The review process resulted in the construction of a database of 276 papers, structured around the following headings: Study (authors and year); Research Questions; Method (e.g. conceptual, case studies or survey); Findings; Unit of Analysis (firm, dyad, supply chain, stakeholder or network) and, most importantly, the theoretical perspective (noting whether explicit or implicit). The database was constructed in MS Word in order to allow for comprehensive descriptions, especially of the theoretical perspectives noting key authors cited, important concepts being discussed or analyzed and critical commentaries. The

Table 1
Journals with relevant sustainable purchasing & supply publications.

Journals included in review	
<ul style="list-style-type: none"> Academy of Management Perspectives Asian Business & Management Benchmarking: An International Journal Business Strategy & the Environment Corporate Environmental Strategy Corporate Social Responsibility & Environmental Management European Journal of Innovation Management Entrepreneurship & Regional Development Industrial Marketing Management International Journal of Environmental Technology & Management International Journal of Logistics: Research & Applications International Journal of Management Reviews International Journal of Operations & Production Management International Journal of Production Research 	<ul style="list-style-type: none"> International Journal of Retail & Distribution Management International Journal of Production Economics International Journal of Physical Distribution & Logistics Management Journal of Business Ethics Journal of Business Research Journal of Economic Geography Journal of Operations Management Journal of Purchasing & Supply Management Journal of Supply Chain Management Omega Logistics Information Management R&D Management Supply Chain Management: an International Journal Sustainable Development Transportation Research: Part E

research team discussed cases of unclear categorization, validating the interpretation of individual research team members (Spina et al., 2013). Tables 2–5 contain extracts from the database.

3. Research into sustainable purchasing and supply management: findings from the systematic literature review

3.1. Overall growth

To put our research into context it is pertinent to begin by tracking the growth in the field. Recent papers focusing on sustainable purchasing and supply management, have noted a strong growth in publications in recent years (e.g. Walker et al., 2012). Our research confirms that there has indeed been a strong upsurge in publications on sustainable purchasing and supply management over the last 7–8 years and in particular the last 3–4 years (see Fig. 1).

There have been no systematic literature reviews of the wider purchasing and supply management research that covers the same period of time. However, focusing on 2002 to 2010, Spina et al. (2013) document an increase of 163% (68 to 179 journal papers). In comparison, our findings show a much stronger growth in the same period, from an accumulated total of 19 papers in 2002 to 107 papers in 2010 (463% increase). This increase does not take into account that, as shown in Fig. 1, the growth really takes off in 2011 as the total paper production rises from 118 to 276 papers by May 2015. Although the

selection of journals is not the same, the comparison with Spina et al. (2013) indicates that the last few years have seen sustainable purchasing and supply management papers account for a large proportion of overall purchasing and supply management publications.

The first year of publication related to sustainable purchasing and supply management was a single article published in 1978 by Gravelleau et al., the next followed over 10 years later (Trawick, Swan, & Rink, 1989), followed by two articles five years later (Badenhorst, 1994; Drumwright, 1994). Throughout the 1990s only eight articles focusing on, or at least related to, sustainable purchasing and supply management were published. Although a steady but limited flow of papers began to appear from 1998, the growth did not begin in earnest till 2005 where seven articles were published in one year. From then on publications have continued to rise with 2014 being the peak year with 59 papers.

The slight decline in 2013 (33 papers) should be seen in the context of several special issues published in 2012 dedicated to the subject, including the first issue dedicated to this subject in the *Journal of Purchasing & Supply Management* edited by Walker et al. (2012), a special issue on 'green marketing and its impact on supply chain' in *Industrial Marketing Management* edited by Chan, He, and Wang (2012) and special issues in *Supply Chain Management: an International Journal*: one issue on 'green supply chain' and another (a double special issue) on systematic literature reviews which contained several papers focused on sustainable supply chain management.

Table 2
Selected sustainable purchasing & supply publications underpinned by stakeholder perspective.

Study	Method	Findings	Unit of analysis	Underpinning theory
Matos and Hall (2007)	2 case studies of oil and gas & agricultural biotech (Brazil and NA)	Problems of integrating sustainable development in supply chains, using life cycle assessment and cradle to grave to optimize closed-loop supply chains, improving product design and stewardship.	Stakeholder	State that they draw on complexity theory e.g. Simon (1962, 1969), risk management, stakeholder theory and innovation dynamics literature.
Darnall et al. (2008)	Survey of 489 facility managers	EMSs and Green SCM may complement each other; EMS adopters have a stronger probability of improving the environment not just within their organizational boundaries, but throughout their network of buyers and suppliers.	Single firm	Draws on extensive literature and discusses e.g. stakeholder pressure and legitimacy issues. but no explicit theoretical perspective.
Hall and Matos (2010)	Case study interviews and focus groups in Brazil	Focus on social exclusion and hence impoverished communities.	Supply chain and stakeholder	Relies on various literatures but no explicit theoretical perspective although stakeholder theory is used.
Co and Barro (2009)	Survey factor analysis (literature review)	Provides a framework for analyzing stakeholder management strategies in supply chain collaboration: two stakeholder strategies: aggressive strategies and cooperative	Stakeholder	Title includes stakeholder theory. 3 attributes identify dynamics of interaction among stakeholders (Mitchell, Agle, & Wood, 1997): power, legitimacy, urgency
Walker and Brammer (2009)	Survey of 106 UK public sector buyers	Sustainable procurement in the UK public sector: significant variation across public sector agencies e.g. local authorities have strong emphasis on buying from local and small suppliers, health looks generally lower in many categories, and education emphasizes environmental aspects.	Firm/dyad	State that their conceptual framework is informed by three conceptual perspectives that have been applied to issues concerned with procurement: the stakeholder, resource-based, and the power-dependence perspective.
Ehrgott et al. (2011)	Survey of 244 US and German companies	Examines how pressures from customers, government and employees determine the extent to which firms consider social aspects in selection of emerging economy suppliers.	Stakeholder	States that they build on stakeholder theory e.g. Freeman (1984)
Parmigiani, Klassen, and Russo (2011)	Conceptual	Discusses supply chain configuration (especially in terms of efficient and responsive strategy), control and capabilities. Focus on need for accountability.	Stakeholder	State that they integrate a stakeholder management approach with familiar SC concepts and that they employ the capabilities literature. Builds on stakeholder theory e.g. in discussing stakeholder salience (Mitchell et al., 1997): power, legitimacy and urgency.
Schneider and Wallenburg (2012)	Conceptual	Internal and external stakeholder salience to implementation of sustainable sourcing. Analyses stakeholder impact on sustainable sourcing profiles.	Stakeholder	Explicitly state that they use stakeholder theory e.g. Freeman (1984) and Mitchell et al. (1997)
Wu, Ellram, & Schuchard (2014)	Case studies (dyadic) in China	Identify 3 categories of EE initiatives implemented by suppliers and find that their implementations are contingent on their ownership characteristics and value alignment with stakeholders. Find that suppliers interpret buyers' motives regarding EE in context of buyer-supplier relationships and environmental positioning of buyers' products.	Stakeholder	Stakeholder theory e.g. Mitchell et al. (1997)

Table 3

Selected sustainable purchasing & supply publications underpinned by institutional perspective.

Study	Method	Findings	Unit of analysis	Underpinning theory
Zhu and Sarkis (2007)	Survey of 341 factories in China	Adoption still relatively immature, but positive links with performance in general.	Dyad and supply chain	Adopts institutional theory. Furthers evidence of existence of heterogeneity of pressures and influences. Not all isomorphic institutional pressures influence environmental practices in the same way.
Carbone and Moatti (2011)	Survey of 600 companies	Focus on transformation process of strategic intent into green supply chain initiatives and role of institutional pressures.	Stakeholders	Title states institutional perspective. "Isomorphism stems from the influence of different types of institutional pressure (DiMaggio & Powell, 1983): formal institutions ('coercive isomorphism'), incl. regulations; informal social pressures by leading or interconnected companies ('normative isomorphism' and 'mimetic isomorphism').
Lee et al. (2013)	Survey of 331 SC and logistics managers of South Korean firms	Impact of GSCM on organizational performance. Links to SCM flexibility.	Company level	Hypotheses based on two theories: institutional theory and RBV but no measure of institutional pressure or resource impact.
Zhu, Sarkis, and Lai (2013)	Survey of 396 Chinese managers across industries	Institutional-based antecedents and performance outcomes of internal and external green SCM: focus on institutional pressures for adopting GSCM: isomorphic pressures i.e. normative, coercive and mimetic	Stakeholder	Specifically builds a conceptual model based on institutional theory.
Adebanjo et al. (2013)	Single case and action research.	Use of CSR criteria in supplier selection in Nigeria	Despite institutional approach focus is mostly dyadic Stakeholder	Explicitly states use of institutional theory in title. Focus on 3 pressures: coercive, mimetic and normative. Paper focuses on coercion of case study organization on supplier practices.
Blome, Hollos, and Paulraj (2014)	Survey of 114 European firms	Green procurement and green supplier development. Focus on legitimacy as driver of green procurement; top management commitment is important for green supplier development. 3 types of isomorphic pressures.	Stakeholder	State that they use theoretical views of legitimacy (institutional and strategic) incl. institutional theory and NRBV. Legitimization is seen as a process of institutionalization, whereby external norms and beliefs are adopted without much thought.
Snider, Halpern, Rendona, and Kidalov (2013)	Survey of 166 companies supplying US defence procurement agencies	CSR and public procurement. Laws, regulations and norms that permeate U.S. federal public procurement. Since public procurement uses public funds, higher levels of accountability and higher standards of stewardship apply.	Stakeholder	Explicitly state that they rely on institutional theory and agency theory
Czinkota, Kaufmann, and Gianpaolo (2014)	A case study of European horse meat scandal	Relationship between legitimacy, reputation, sustainability and branding for companies and supply chains.	Supply chain and stakeholders	Adopts "... a synthesized explanatory basis entailing an eclectic mosaic of inter-disciplinary theories (institutionalist, neo-institutionalist theories, the viable system approach, isomorphism and identity)".

3.2. Theoretical perspectives: an overview

Fig. 2 shows the distribution of papers that contained a stated theoretical perspective or at least a clear application of a theoretical perspective. First of all we note from Fig. 2 that 15.8% (46 papers) relied on what we have recorded as general sustainable supply chain management literature. Usually, these papers made no explicit statements to identify the use of theory but many did state that they applied, say, a particular supply chain management model. This indicates a classification challenge: it is very difficult to distinguish papers that had no or limited theoretical perspective and those that applied more or less explicitly a general supply chain management perspective. For example, papers often included references to the (sustainable or general) supply chain management literature, claiming that by doing so they apply theory.

In reality, stakeholder theory (e.g. Clarkson, 1995; Freeman, 1984) is the dominant theoretical perspective, followed by the resource-based view (RBV) (e.g. Barney, 1991; Wernerfeldt, 1984) and institutional theory (e.g. DiMaggio & Powell, 1983). Some recent papers (e.g. Pullman, Maloni, & Carter, 2009) adopt the natural-resource-based view (NRBV) first proposed by Hart (1995), which builds on the RBV to take into account a focus on the natural environment, in particular the role of sustainable development, product stewardship and pollution prevention. We should emphasize that those papers identifying a clear theoretical perspective often use more than one theory, usually combining two or three complementary perspectives, such as stakeholder and institutional theories, or RBV and NRBV.

Relatively few papers adopt an IMP Interaction Approach: 3%, or 9 out of the 276 papers. Another five papers mention IMP or reference IMP sources but with no explicit use and generally very limited application. In comparison with stakeholder theory, institutional theory and RBV/NRBV, the IMP Interaction Approach has therefore had less impact on sustainable purchasing and supply management research although nevertheless as frequently applied as NRBV. As will be discussed later, IMP arguably does not constitute a theory as such although it is certainly frequently used as a theoretical, or analytical lens, in research on industrial buyer–supplier and supply network research. However, the same argument could be made against various other 'theories', in particular the large number of papers that cite their theory as 'sustainable supply chain management'.

Considering the popularity of transaction cost economics (TCE) in much of the buyer–supplier relationship and supply chain management literature (Spina et al., 2013), it may be a little surprising that only 3.1% of papers use TCE as theoretical perspective to analyze sustainable purchasing and supply management. However, as some have observed (Hall & Matos, 2010), TCE is arguably ill suited to understanding what is by definition a long-term concept (i.e. sustainability) given the inherent short-term focus of TCE.

It is also clear from Fig. 2 that a wide range of theoretical perspectives is applied. For example, we found 7 papers that rely on Pfeffer and Salancik's (1978) resource-dependence theory, 6 papers that use Dyer and Singh's (1998) relational view, and actor-network theory and social capital theory are both applied in 3 papers. In addition, we found a few papers that apply, for example, dynamic capabilities, resource-advantage theory or complexity theory. We recorded the use

Table 4
Sustainable purchasing & supply publications underpinned by resource-based perspectives.

Study	Method	Findings	Unit of analysis	Underpinning theory
Vachon and Klassen (2006)	Survey of 84 companies in the packaging industry.	Impact of environment-related or green project partnerships on a plant's cost, quality, delivery, flexibility and environmental performance	Dyad and supply chain	Explicitly states that they adopt NRBV to support theoretical link between green project partnerships and operational performance.
Worthington (2009)	Interviews with 3 case companies in US and 4 in UK	Describes how large purchasing organizations build a business case for supplier diversity, specifically ethnic minority owned businesses	Stakeholder	Relies extensively on stakeholder theory but also RBV, especially RBV linked to CSR that consider a firm's reputation or image as a valuable asset
Pagell, Wu, and Wasserman (2010)	10 case studies of NA supply chains but no supplier interviews	Argues that purchasing portfolio models e.g. Kraljic (1983) need to be adapted to include sustainable SCM (SSCM) considerations.	Claims 'supply chain level but effectively internal and dyadic	Discussion of how Kraljic can be changed to incorporate sustainability. Discusses findings using TCE, RBV and stakeholder theory.
Paulraj (2011)	Survey of 145 US firms	Firm-specific capabilities can significantly influence environmental, social and economic performance.	Company	Grounded within RBV, resource advantage theory and relational view. Both firm-specific, as well as relational capabilities, are essential for achieving competitive advantage.
Shi et al. (2012)	Conceptual paper & model	Natural resource based green supply chain management. Critically evaluates performance measures and institutional environment.	Firm/supply chain.	NRBV and institutional theory
Narasimhan and Schoenherr (2012)	Survey of 434 manufacturing firms in US	Supply mngt. Practices (SMP) and environmental mngt. Practices (EMP) both influence better quality performance.	Plant level	Uses RBV to explain link between supply integration, environmental practices and improved quality. SMP and EMP are seen as resources that enhance quality.
Gimenez and Sierra (2013)	Survey of 79 Spanish and 109 German purchasing managers.	Governance mechanisms for greening suppliers including supplier assessment and 'collaborative efforts': effect on environmental performance.	Dyadic	State that they use TCE Williamson (1975) and RBV. TCE explains why assessment is used to improve environmental performance; RBV explains why collaboration leads to better environmental performance.
Blome et al. (2014)	Survey of 114 European firms	Green procurement and green supplier development. Legitimacy as driver of green procurement, top management commitment is important for green supplier development. 3 types of isomorphic pressures.	Stakeholder	State that they adopt institutional theory and NRBV.

of grounded theory in 3 papers, with the proviso that this is not a theory but a methodology with implications for the use of theory i.e. papers applying a grounded theory perspective are data driven.

As an overall observation Fig. 2 indicates the cross-disciplinary nature of the emerging field of sustainable purchasing and supply management. A very wide range of perspectives is being applied, where not all are management perspectives and contributors to the field span many disciplines, including economic geography, engineering, and sociology. Consequently, 9.4% are recorded as 'other theories' including a long list of theoretical perspectives, such as industrial ecology, contingency theory, social contract theory and ethical climate theory.

However, what possibly stands out from Fig. 2 more than the distribution of theories applied, is the large proportion of papers (26.8%) that rely on no or limited theory. As explained earlier, many papers had no stated theoretical perspective, were mostly concerned with practical challenges, such as tools, regulatory drivers or standards, or often relied on literature yet with no clear use of theoretical perspective(s).

Finally, the fact that many papers lack a theoretical perspective needs to be understood in the context of much of the sustainable purchasing and supply management research being focused on technical frameworks or standards. As discussed later, Matos and Hall (2007) specifically focus on Life Cycle Assessment (LCA), Darnall et al. (2008) focuses on Environmental Management Systems (EMS), Knudsen focuses on Business Social Compliance Initiative (BSCI) implementation, and Mueller et al. (2009) explore various CSR standards including ISO14001, SA8000, Fair Labor Association (FLA) and Forest Stewardship Council (FSC). Although, for example, LCA may be seen as a (practical) theory, we concur with Tate et al. (2012, p. 175): "LCA is a very practical,

design-oriented approach more than a theory building approach". In any case, it is clear that many sustainable purchasing and supply management papers focus on practical issues in relation to standards or systems rather than being theory-driven. We return to the question of what qualifies as a theoretical perspective later.

3.3. Changes in theoretical perspectives over time

Analyzing the development of the most popular theoretical perspectives over time, we can observe some interesting changes. Focusing on the last 10 years during which sustainable purchasing and supply management research began to grow in popularity, Fig. 3 shows that stakeholder theory has been the dominant theory since 2007 and continues to grow in importance. Research relying on RBV, and also the NRBV, is on the rise and almost now as prevalent as the second most dominant theory i.e. institutional theory. The IMP Interaction Approach has shown some growth during the last 4–5 years so that it is now used as frequently as TCE. However, we note that during 2013 and 2014 only 2 papers were published using an IMP perspective and to date in 2015 none have been published.

4. The dominant theoretical perspectives: stakeholder, institutional, resource-based and IMP: an overview

In this section we first present and then discuss the three theoretical perspectives that are most widely applied across the papers that we examined (stakeholder, institutional and resource-based theories), focusing on prominent contributions within each perspective and their salient characteristics. Given the number of publications applying these three perspectives we focus on contributions in selected papers,

Table 5

Sustainable purchasing & supply publications underpinned by IMP perspective (all identified publications included).

Study	Method	Findings	Unit of analysis	Underpinning theory
Wood (1995)	Conceptual	Bribery is seen as the most significant problem of ethics in purchasing, codes of ethics have helped but they are only aspirations.	Firm/dyad	Relies mostly on sales and marketing literature and some purchasing. Introduces IMP Interaction Approach (Ford, 1980) to highlight the role of social relationships in buyer-seller relationships.
Harrison and Easton (2005)	10 case studies	Patterns of actor response to environmental change. Explores how actors respond to a single deep process: minimization of change.	Network	State that they use Industrial network (IMP) and strategic management theory. Uses IMP to analyze environmental change process as network change.
Ritvala and Salmi (2010)	Single in-depth case study: saving the Baltic sea	Value-based network mobilizers & environmental networkers. Shifts focus of analysis from business networks to networks covering multiple types of actors. Analyzes network development around a contemporary issue.	Network/ Stakeholder	State that they anchor the study in IMP and ideas from other streams of literature to better understand mobilization of issue networks.
Crespin-Mazet and Dantenwill (2012)	Single in-depth case study	Legitimacy in supply networks: identifies product, corporate and cause legitimacy and shows increasing commitment levels associated with each type.	Network	State that they adopt the IMP supply network framework of Gadde and Håkansson (2001). Their conceptual framework is IMP ARA model. Distinguish between business and non-business actors.
Oruezabala and Rico (2012)	15 Cases of French hospitals	Sustainable public procurement and supplier management. Focus on public procurement (relational) contracts. Role of norms.	Mostly dyadic	No explicit statement of adoption of a theoretical perspective; focuses on relational contract theory e.g. Mouzas and Ford (2006).
Öberg, Hüge-Brodin, and Björklund (2012)	3 case studies	Network analysis of environmental impact assessment: actor embeddedness, resource interaction and inclusion of indirect effects.	Network	Makes no explicit statement but clearly adopts an IMP network perspective in focusing on embeddedness of actors, resources, and activities.
Ryan, Mitchell, and Daskou (2012)	Conceptual	Examines interactions and network approach to developing sustainable organizations.	Dyad, net/network	Refers to the interaction and networks approach (IMP: Håkansson, 1982, Möller & Halinen, 1999). Combined with living systems theory Capra (2002).
Tate, Ellram, and Gölgeci (2013)	Conceptual: develops a set of propositions	Diffusion of environmental practices in supply networks. Proposes that high levels of structural and relational embeddedness incl. Weak ties are required for diffusion of environmental practices in supply networks.	Network	State that they apply a network approach. Identify both social network theory and IMP. Makes use of e.g. Harland (1996) and Lamming, Johnsen, Zheng, and Harland (2000) to highlight the importance of distinguishing between different levels of supply chain/network analysis.
Insanic and Gadde (2014)	Single case study in PC industry incl. Interviews with multiple actors (35 persons across 14 organizations)	Most significant issues in organizing product recovery concern coordination of interdependent activities and combining physical and organizational resources. Effective organizing is contingent on interaction and information exchange among firms. Sorting rules applied in product recovery crucial for performance in activity chain from disposer to end-user.	Network	State that they use industrial network theory i.e. IMP and ARA model

in particular those that have made interesting contributions to purchasing and supply management. In order to put these papers into context we also refer back to some seminal contributions in each theoretical perspective that did not show up in our systematic search process. Having provided an overview of the three dominant theoretical

perspectives, we then examine the papers that have applied an IMP Interaction Approach: given the relatively few papers with an IMP perspective we do not restrict this to a selection of papers, but are able to show all the papers that have adopted an IMP perspective for the study of sustainable purchasing and supply management.

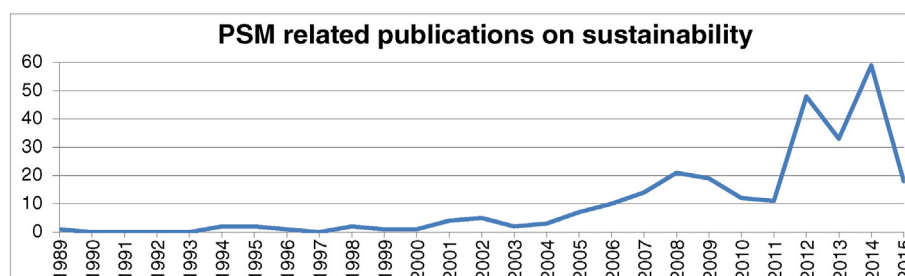


Fig. 1. Overall development of purchasing and supply management related sustainability publications (1978 excluded, latest count in May 2015).

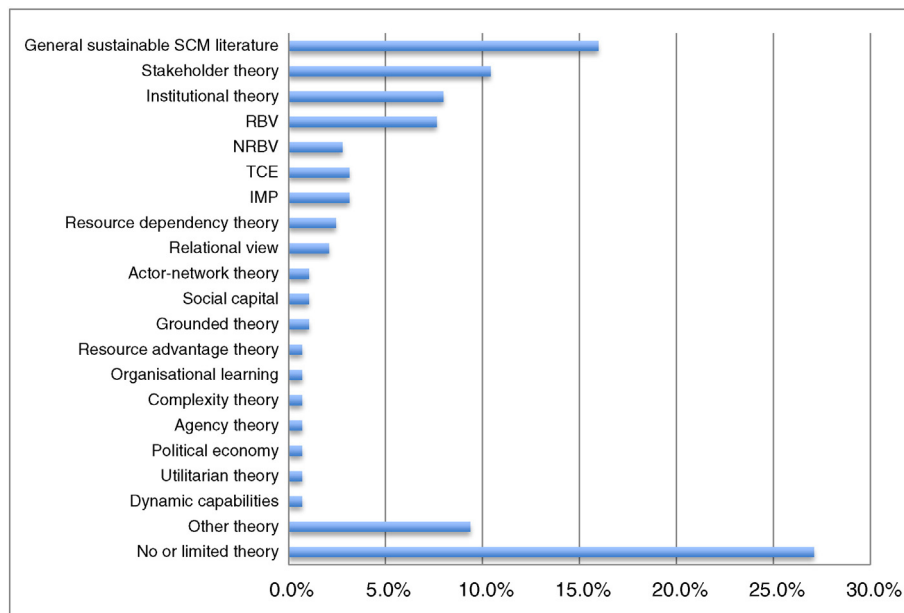


Fig. 2. Distribution of applied theoretical perspectives.

4.1. Stakeholder theory

As revealed earlier (Figs. 2 and 3) stakeholder theory is the dominant underpinning theoretical perspective in sustainable purchasing and supply management research and its popularity continues to increase. Table 2 provides an overview of selected studies adopting the stakeholder theory perspective to the analysis of purchasing and supply management related phenomena. The papers included here represent those we see as exemplars of the nature of the research within this stream, especially the themes that are typically analyzed through a stakeholder perspective.

Stakeholder theory is often used to support the elaboration of other theories, such as RBV and institutional theory, but rarely becomes the focus of development on its own. It was not until Freeman (1984) integrated stakeholder concepts into a coherent construct that the theory began to take on its own identity. According to stakeholder thinking, relationships do not occur in a vacuum of dyadic ties, but as a network of influences involving multiple stakeholders (Rowley, 1997), including “...any group or individual who can affect, or is affected by, the achievement of a corporation's purpose” (Freeman, 1984, p.vi).

The diversity of stakeholder theory and its facility for identifying and prioritizing conflicting requirements is a key part of the appeal of stakeholder theory in sustainable purchasing and supply management (e.g. Matos & Hall, 2007). Many papers (e.g. Darnall et al., 2008; Ehrgott et al., 2011; Hall & Matos, 2010; Walker & Brammer, 2009) focus on how pressures of varied stakeholders, including primary stakeholders (those with a direct interest in the organization e.g. customers, shareholders, employees, suppliers, and regulators) and secondary stakeholders (those that are not engaged in transactions with the organization but can affect, or are affected by the organization e.g. academic institutions, non-government organizations (NGOs), neighboring communities, and social activists), induce companies to embrace sustainable purchasing and supply practices.

The paper by Matos and Hall (2007) exemplifies how many of the papers we analyzed combine several theories, where one of these is often stakeholder theory. Discussing the integration of sustainable development concerns in the supply chain, focusing on the applicability of LCA, they state that they draw on complexity theory (e.g. Simon, 1962, 1969), risk management, stakeholder theory and innovation dynamics literature. In particular, they build on the biological concept

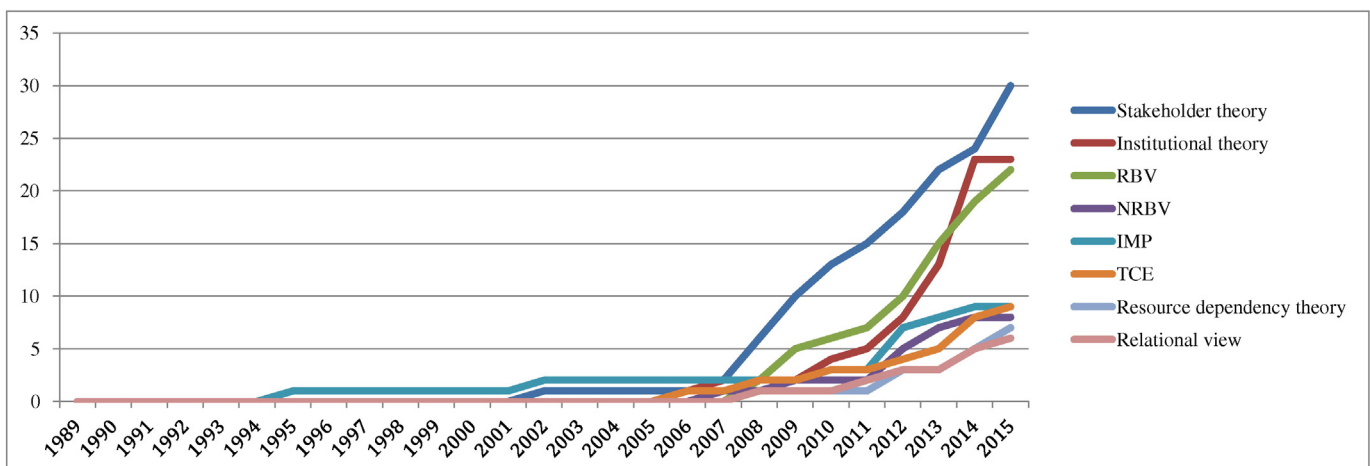


Fig. 3. Development of theoretical perspectives over time (cumulative).

of 'fitness landscapes' (Kauffman, 1993), viewing rugged landscapes as a function of the distribution of fitness values and interdependencies among the parts; a concept that has also been applied in supply chain management to explore supply network complexity (Carter, Rogers, & Choi, 2015; Choi, Dooley, & Rungtusanatham, 2001). Matos and Hall (2007, p.1084) "consider sustainable development an inherently rugged landscape that requires coordination of social, environmental and economic dimensions."

Co and Barro (2009) also draw on stakeholder theory as one of several theories. Building on Mitchell et al. (1997), they discuss three attributes from stakeholder theory that identify the dynamics of interaction among stakeholders:

1. Power: the ability of an advocate to influence, produce or effect behavior, outcomes, processes, objectives, or direction.
2. Legitimacy: in keeping with expected behavior, structures, values, beliefs, norms and rules.
3. Urgency: the stake is critical to the stakeholder and time-sensitive.

Mitchell et al.'s (1997) seminal work on stakeholder salience theory is frequently adopted as part of research into sustainability (e.g. Parmigiani et al., 2011) where relationship attributes combine the influence of power, legitimacy and urgency. Parmigiani et al. (2011, p.221) state that firms may learn how to engage stakeholders effectively from their suppliers: "adding stakeholder salience with respect to social and environmental issues means that firms may benefit from focusing on a smaller number of rich relationships with both suppliers and activists, as it will take more effort to manage these relationships cooperatively". More specifically related to purchasing and supply management, Schneider and Wallenburg (2012) focus on the role of purchasing in implementing sustainable sourcing and collaboration with internal and external stakeholders. Building on stakeholder theory, they investigate stakeholder salience to drive the implementation of sustainable sourcing, again focusing on stakeholder power, legitimacy and urgency.

General criticisms of stakeholder theory are that exclusive use of the approach may restrict thinking on how relationships between firms are affected beyond the variables of power, legitimacy and urgency, where a response may need to include in-depth explanations around the precise nature of the transaction or specific capability requirement. Hence, it is not surprising that the theory tends to be combined with various other theories including institutional theory.

4.2. Institutional theory

We identified 14 papers that adopt an institutional perspective. A fundamental premise of institutional theory is that it explains why companies often adopt similar responses and practices. The majority of these papers see the institutional view as a way of explaining the drivers for sustainability responses, assuming for the most part that purchasing and supply actions are the result of external pressure of a coercive, normative or mimetic (cognitive) nature (Adebanjo, Ojadi, Laosirihongthong, & Tickle, 2013; Carbone & Moatti, 2011; Hsu, Tan, Zailani, & Jayaraman, 2013; Lee, Rha, Choi, & Noh, 2013; Shi, Koh, Baldwin, & Cucchiella, 2012). Table 3 shows a selection of studies adopting the institutional approach, again constituting exemplars of the nature of the research within this stream.

Zhu and Sarkis (2007) investigate the role of institutional pressures on emergent green supply chain management (GSCM) (including green purchasing) practices in Chinese manufacturers, identifying the importance of market (normative), regulatory (coercive) and competitive (mimetic) pressure. Likewise, Czinkota et al. (2014) focus on the relationship between legitimacy, reputation, corporate branding, and identity in industrial marketing and use a combination of institutional and stakeholder views within their conceptual development paper. They highlight that enhanced reputation through legitimacy should be achieved through improved coordination and planning, better communication between actors and formal trust, but also training to raise

awareness of value of quality particularly in food supply chains (using the example of the recent horse meat scandal). Similarly, Snider et al. (2013) present results that qualify previous research using an institutional view by showing that government contracts do not necessarily lead to explicit CSR in Europe or the US. They propose that future research combine agency and institutional theory to better explain the role of the unique institutional environment of public procurement.

Others have provided overviews of institutional theory (contested as a theory itself) explaining the economic and sociological roots of the perspective in the context of supply chain management (Kauppi, 2013). This highlights missing arguments especially in explaining the role and reaction to the presence of uncertainty. Often institutionalist research more generally relates to how firms cope with uncertainty in the external environment but the theory also points to actively influencing these pressures for own advantage (Meyer & Rowan, 1977), for example through pre-empting and shaping legislation and standards. This is hardly considered in purchasing and supply management literature, despite its clear importance especially as purchasing becomes more strategic. One rare example is the work of Ritvala and Salmi (2010), who also rely on IMP, showing that environmental networkers can instigate institutional changes (to rules) at a societal level in spite of and in addition to their business interests.

4.3. Resource-based theories

As the literature analysis in this paper shows, the RBV has been used in several papers and indeed is becoming increasingly popular as a theoretical lens to study sustainable purchasing and supply management phenomena. However, given the RBV's inherent limitations, especially when applied to sustainability, the RBV is often accompanied by other theoretical perspectives and it is rarely the classic RBV that is applied. RBV's greatest limitation is the restriction of resource scope as defined by the boundary of the firm. As a response to these criticisms, developments in thinking of the RBV have emerged, including the extended resource-based view (ERBV) (Lavie, 2006) and the natural resource-based view (NRBV) (Hart, 1995) and it is the latter that is adopted in an increasing number of studies.

As the original proponent of NRBV, Hart (1995) argues that focusing on an internal competitive approach may prove inadequate for firms adopting sustainable practices because of the criticality of external relationships. Hart's (1995) idea of competitive advantage is based on the firm's relationship with the natural environment via three interconnected strategies: pollution prevention, product stewardship and sustainable development. The NRBV model combines these strategies with the internal-external boundary spanning aspects between concerns over firm competitive advantage and wider societal legitimacy. Table 4 provides an overview of selected studies applying RBV and NRBV perspectives.

Worthington (2009, p.66) argues that sustainability implies that a firm's reputation or image becomes a valuable asset. Several authors, including Pagell et al. (2010, p.66), point to the strategic significance of inter-firm relationships:

"The implications here are that (a) each relationship is potentially a resource that is firm-specific, creates value in the marketplace and is difficult to imitate (Barney, 1991) and (b) the ability of managers to recognize and form relationships to improve sustainability may be an even more valuable asset that results in a sustainable advantage in making responsible and profitable supply chain decisions."

Similarly, Paulraj's (2011, p. 31) study shows sustainable supply management (SSM) "as a socially complex relational capability that can function as a crucial mediator of the relationship between firm-specific resources/capabilities and organizational sustainability". He further argues that firm-specific capabilities can have a significant influence not only on economic but also on environmental and social firm performance.

Studying green project partnerships from an NRBV perspective, Vachon and Klassen (2006) conclude that the development of knowledge sharing routines and capability to integrate external resources (Dyer & Singh, 1998) constitute resources that are difficult to replicate and thus may generate a competitive advantage. This is echoed by Gimenez and Sierra (2013, p.197–198) who conclude that “by providing their suppliers with training, a buying firm not only contributes to the development of its supplier’s environmental capabilities, but also obtains a more environmentally friendly product or service, which in turn results in an enhancement of its environmental reputation and performance.” Again, the argument is that the ability to form collaborative relationships with suppliers to improve sustainability is a valuable asset that results in a sustainable competitive advantage.

4.4. Industrial marketing & purchasing (IMP)

So far this section has provided an overview of the three dominant theoretical perspectives in sustainable purchasing and supply management research. In this section we take a closer look at those papers that have applied an IMP perspective although as already identified the IMP perspective is applied far less than the dominant perspectives.

Given the small number of papers applying an IMP perspective we are able to show all the papers identified (and not just selected papers) in Table 5. As shown, Wood (1995) was the first to use IMP concepts to discuss ethical issues in buyer–seller relationships yet this was a relatively minor part of his paper. Harrison and Easton (2005) paper was much more strongly guided by an IMP perspective in its analysis of patterns of network actor responses to an environmental change (banning of CFCs), however, albeit relevant did not focus on purchasing and supply management. The more recent papers that have appeared since 2010 show promise as to the potential application of an IMP perspective and the issues that can be better understood through an IMP lens.

Ritvala and Salmi’s (2010) paper on value-based network mobilizers shifts “the focus of analysis from predominantly business networks to networks covering multiple types of actors, such as political (Hadjikhani, Lee, & Ghauri, 2008; Welch & Wilkinson, 2004), and those from the civil society, and analyze network developments around a contemporary issue” (p. 899). This is a significant use and, more importantly, conceptual development of the IMP Interaction Approach as most IMP studies to date have focused on business networks, in reality mostly in an industrial context (although research on service industries has emerged in recent years). Thus, seeking to understand mobilization of a wider range of actors, they examine how ‘issue networks’, or nets, are initiated and change over time through formation of groups that pursue “collective goals where organizations interactively shape and develop the rules that constitute and govern their relationships” (Mouzas & Naudé, 2007).

Exploring French public sustainable procurement, Crespin-Mazet and Dontenwill (2012) adopt a similar distinction between types of actors, referring to ‘business and non-business actors’ (e.g. NGOs), using an IMP lens to explore the challenges of building legitimacy in supply networks. As discussed earlier, legitimacy is one of the themes of stakeholder and institutional theories. Crespin-Mazet and Dontenwill (2012) demonstrate how the IMP ARA model and the supply network framework of Gadde and Håkansson (2001) can be used to analyze legitimacy as part of sustainability development within supply networks, identifying product, corporate and cause legitimacy and showing increasing commitment levels associated with each type of legitimacy.

Similarly focused on the context of French public procurement, specifically how French hospitals are increasingly required to comply with regulations that dictate the inclusion of sustainability in public procurement contracts, Oruezabala and Rico’s study (2012) critically evaluates the role of contracts as part of the interaction between French hospitals and their suppliers, finding that sustainable procurement impacts these relationship by creating new rules.

Öberg et al.’s study (2012) is closer to the paper by Harrison and Easton (2005) in its network analysis of environmental impact assessment. Highlighting the importance of understanding actor embeddedness, resource interaction and inclusion of indirect effects, their network analysis contributes to research on environmental effects (e.g. McIntyre, Smith, Henham, & Pretlove, 1998; Vasileiou & Morris, 2006), showing how assessment could be seen as an embedded activity with consequences for interaction:

“Because of scarce resources, organizations have to decide which functions to perform themselves – and therefore establish ties with other organizations for complementary resources [...] Actions by one party are both constrained by and affect other parties. Such effects can be direct or indirect, which means that they are mediated through third parties. A network approach provides the tool for analysing the complexity of direct and indirect effects [...]” (Öberg et al., 2012, p. 248).

Ryan et al. (2012)’s conceptual paper brings further issues to the fore, discussing in particular the nature and role of networks in building systems level change (meso-level or issue-based nets (Ritvala & Salmi, 2010), the role of dyadic relationships as a mechanism for capability development and system level change, and the capabilities necessary to enhance learning for sustainability. Building on the work by Möller and Halinen (1999), they provide a conceptual framework capturing different triggers of external and internal change, in a similar vein to stakeholder theory but focusing more on the role of indirect network relationships and interconnected and interacted change thus adopting a markets-as-networks perspective (Araujo, Dubois, & Gadde, 2003; McLoughlin & Horan, 2000). In suggesting how IMP concepts could be used to understand the role of dyadic relationships in capability development, they identify the importance of understanding learning as being generated through interaction (Easton & Araujo, 1994) and the co-creation of knowledge, again echoing the study by Ritvala and Salmi (2010). Finally, again building on Möller and Halinen (1999); Ryan et al. (2012) propose specific capabilities including network visioning, orchestration and the ability to perceive the “other” as partners in creating new market realities, although the idea of network orchestration may over-estimate the ability and influence of actors on networks. Nevertheless, the network visioning, and also network pictures concept (e.g. Ramos & Ford, 2011), should have much potential to make sense of sustainability contexts.

Tate et al. (2013) state that they apply an IMP network and a social network approach, although building on the IMP-related literature focused on supply networks (Harland, 1996; Lamming et al., 2000) rather than extensive use of core IMP concepts. Yet, in line with other authors such as Möller, Rajala, and Svahn (2005) and Ritter and Gemünden (2003) they highlight the importance of distinguishing between different levels of supply chain and network analysis. Similarly to Öberg et al.’s study (2012), they discuss how environmental practices spread or diffuse within supply networks, proposing that high levels of structural and relational embeddedness including weak ties are required for effective diffusion. The final paper we identified by Insanic and Gadde (2014) use the ARA framework to analyze product recovery processes in industrial networks. Their study identifies the critical role of coordination of interdependent activities and the combining of physical and organizational resources and that effective organizing is contingent on interaction and information exchange among firms.

5. Comparisons and the way ahead

The most widely applied theoretical perspectives for researching sustainable purchasing and supply management are stakeholder, institutional, and RBV-based theories. The IMP Interaction Approach and TCE are both far less applied. In the case of TCE, this may not be entirely surprising as the inherent short-term focus of TCE arguably makes it ill-suited to understanding sustainability (Hall & Matos, 2010). However,

Table 6
Comparing the four theoretical perspectives.

Characteristics	IMP	Stakeholder theory	Institutional theory	Resource-based views
Key concepts	Interaction processes in btb customer–supplier relationships. Adaptation and institutionalization. Actors bonds, resource ties, activity links. Network effects	Identification of key actors. The motivation of firms i.e. power, legitimacy, urgency. Importance or salience of each actor in relation to the phenomena under investigation	Legitimacy is gained by responding to institutional pressures. Argues that the institutional environment creates isomorphism (structures and practices) through coercive, normative and cognitive pressures.	Valuable, Rare, Inimitable and Non-substitutable resources (VRIN). Core competences and dynamic capabilities.
Unit of analysis	Dyadic business relationships and business networks. Network level dynamics and change processes	Individuals, groups of people, firms, sectors and non-governmental organizations. Typically sector, network or whole system analysis	The firm (as institutions), but also the institutional environment comprising multiple external and internal institutions.	Traditional RBV emphasizes internal resources and the need to protect these; ERBV and NRBV focuses on inter-organizational relationships as sources of sustained competitive advantage
Sustainability in purchasing and supply relevance	Understanding how sustainability diffuses or spreads within networks. Role of interaction with network actors, inter-dependency, connectedness, embeddedness and network effects.	Concepts such as 'legitimacy' and 'urgency' as represented in sustainability & stakeholder theory, may take precedence in future over more traditional notions such as 'power' in the supply hierarchy.	Pressures arise from non-economic institutions as government & NGOs but also economic actors such as industry associations promoting social standards. These are key drivers for sustainable supply practices. Partnerships with actors seen as important for legitimacy.	Competitive advantage, through differentiation, can be gained by sustainability actions if based on unique, socially complex resources and capabilities such as collaborative supplier relationships and development.

the lack of studies applying an IMP perspective is more surprising as IMP research could potentially have a much stronger impact on the sustainable purchasing and supply management research agenda and in our view also provides scope for furthering IMP models and concepts.

This section now compares stakeholder, institutional and resource-based views with the IMP perspective. Clearly, both stakeholder and institutional theories have much in common with IMP whereas in comparison the traditional RBV differs in some important aspects. Table 6 provides an overview of these four perspectives.

The frequently used stakeholder and institutional perspectives are highly complementary in important aspects. Both focus on exogenous pressures on the firm from multiple actors, with institutional theory in particular focusing on institutional and regulatory factors. They also share an interest in the concept of legitimacy, which is regarded as critical for firms seeking to embrace sustainability, as inevitably some observers perceive such actions as being disingenuous attempts to 'pay green lip service', rather than a genuine desire to make long-term sustainable changes. Together with stakeholder power and urgency, legitimacy is one of the drivers of stakeholder salience (Mitchell et al., 1997) that helps to understand stakeholder types and roles during implementation of sustainable purchasing and supply. According to institutional theory, legitimacy is gained when firms respond to institutional pressures; here the focus is particularly on how the institutional environment creates isomorphism (structures and practices) through coercive, normative and cognitive pressures (DiMaggio & Powell, 1983). In the purchasing and supply literature initiatives are seen as the result of such pressures (e.g. Adebajo et al., 2013; Carbone & Moatti, 2011; Hsu et al., 2013; Lee et al., 2013). As discussed, the focus on drivers is also one of the inherent limitations of institutional theory as it concentrates on the *why* rather than the *how*.

Although the traditional RBV is predominantly preoccupied with nurturing internal resources and competences, the NRBV shifts the focus towards the external environment including inter-organizational relationships. Indeed, key to the NRBV is that sustained competitive advantage can be gained if they are based on unique, socially complex resources and capabilities, such as collaborative supplier relationships and development. Thus, the differences between NRBV and institutional theory are subtle. Blome et al. (2014) argue that where institutional theory interprets legitimization as "a process of institutionalization, whereby external norms and beliefs are adopted without much thought (DiMaggio & Powell, 1983), the NRBV envisions legitimacy as instrumental, proactive

and, more importantly, a deliberate pursuit that can ultimately enhance external beliefs, thereby creating newer and enhanced levels of legitimacy" (p. 35).

The IMP Interaction Approach has not yet provided a theoretical underpinning for a great number of studies on sustainable purchasing and supply management, but the inherent focus on relationships and networks chimes with the other three perspectives. In the following we draw out some of the salient IMP characteristics in comparison with these theories and explore some opportunities for IMP-based research on sustainable purchasing and supply management.

5.1. Advancing the sustainability field by using IMP as theoretical lens

The systematic review of sustainable purchasing and supply management research suggests a real potential for further research guided by an IMP Interaction Approach. This section proposes five directions for IMP-based research into sustainable purchasing and supply.

First, the IMP Interaction Approach (Håkansson, 1982) has a strong focus on interaction processes and relationship management: relatively speaking, institutional and stakeholder theories in reality have little to say about relationship management. While both stakeholder and institutional theories allow the classification of actor types manifested through levels of salience (legitimacy, urgency and power) or institutional logics (routines, rules, laws, conventions, paradigms and so on), the mechanisms of interaction amongst actors are largely ignored. There are many potential research opportunities presented by this gap, for example, exploring how classifications of actors influence relationship processes as seen through the IMP lens, in order to study issues of fit and appropriateness of response.

Second, where stakeholder and institutional theories typically perceive the firm's stakeholder relationships as a set of direct relationships affecting the firm, the IMP approach has less of a focal firm view, that is, the IMP Interaction Approach does not assume that any firm is in the centre of a network. IMP also has a distinct focus on understanding the interconnectedness and interdependency of relationships: as companies strive to spread or diffuse sustainability into their wider supply networks (Tate et al., 2013) the IMP perspective could clearly be used to good effect. Future studies might study the diffusion of sustainability across networks from a network change perspective, contributing to the understanding of the role of dyadic relationships

as conduits of sustainability changes across supply networks and potential 'domino' effects (Hertz, 1998).

Third, future studies could analyze how supply network actors cope with sustainability initiatives launched by other distant network actors. IMP research has made strong contributions to research on network effects (e.g. Ritter, 2000) and one of the central assumptions is that network actors generally have to cope with rather than manage the actions of other actors. Where sustainable supply chain management research tends to assume that focal firms simply need to impose sustainability on their suppliers and that these in turn are willing to embrace such initiatives, IMP research makes no such assumption. The IMP focus is on multiple network actors without any assumption of any actors being in control or in the centre of the network. Ford and Håkansson (2002) argue that attempts to control networks may be futile and will lead to networks becoming less effective. However, the need for firms to adopt sustainability not only within their own boundaries but also within their extended supply networks could challenge this assumption. Certainly, there is a need for firms to have an ever higher degree of visibility over their supply networks and to try to influence not only direct suppliers but also, and even more importantly, their indirect suppliers that may be located in parts of the world where the understanding of sustainability may be not be very advanced (for example low cost countries). Such research could tie in with a focus on isomorphism in the institutional environment (DiMaggio & Powell, 1983) and consider the role of relationship characteristics (Ford, Håkansson, & Johanson, 1986), such as power and trust, in diffusing or spreading sustainability initiatives across supply networks. Consider how large retailers such as Tesco, Walmart and Marks & Spencer reportedly wield their power in their supply networks, leaving suppliers little choice but to comply with their policies and requirements. Research into the role of power in spreading sustainability within supply networks appears to be slowly emerging (Meqdadi, Johnsen, & Johnsen, 2014; Touboullic, Chicksand, & Walker, 2014).

Fourth, institutional theory focuses on isomorphism, while RBV (and NRBV) attempts to explain how companies differentiate according to their resources and capabilities. A contribution from IMP could be to demonstrate where companies can use their network ties (Håkansson & Snehota, 1995) as a basis for differentiation despite pressures to conform to 'type' as a result of homogeneous rules and regulations (e.g. as may be found within Europe). Key to this is the assumption in IMP that each relationship is unique (Ryan et al., 2012). Hence IMP could be used to show how direct and indirect relationships (Ritvala & Salmi, 2010), as well as strong and weak ties (Tate et al., 2013), provide unique opportunities to differentiate, avoiding isomorphic structures and responses and creating competitive advantage based on sustainability.

Finally, IMP has traditionally focused on commercialized firms as the key actors in a business network. Recent attempts to apply an IMP perspective to the study of sustainable purchasing and supply have added 'non-business actors' to the networks being studied, such as regulators and NGOs (Crespin-Mazet & Dantenwill, 2012; Ritvala & Salmi, 2010). This is clearly an important conceptual development that requires more research, for example to explore differences between interaction processes relating to business to 'non-business' actors. In fact, including such non-business actors as essential parts of supply (or business) networks is arguably a critical conceptual challenge for the IMP Interaction Approach.

6. Discussion and conclusions

This paper has confirmed that there is a strong upsurge in research focused on sustainable purchasing and supply management. From a slow start in the 1990s the research began to grow from around 2000, with increasing number of publications since 2005. We have shown that this growth is much stronger than the growth in general purchasing and supply management publications as analyzed by Spina et al.

(2013). Indeed, we have little doubt based on our results and experience in the field that sustainability is in fact the strongest current theme within purchasing and supply management research (see also Walker et al., 2012; Johnsen, Howard, & Miemczyk, 2014). Yet from our knowledge of the literature, before conducting the analysis reported in this paper, we sensed that IMP researchers had not really taken up this challenge to the field despite the apparent advantages that an IMP Interaction Approach could offer due to its focus on customer-supplier interaction processes, relationships and networks.

Therefore, we set out to address two questions:

- 1) *What are the dominant theories used to underpin and guide sustainable purchasing and supply management research?*
- 2) *How could the IMP Interaction Approach provide a useful theoretical perspective to better understand sustainable purchasing and supply management phenomena?*

Seeking answers to these questions, we conducted an extensive systematic literature review (Tranfield et al., 2003) focused on articles in journal that are listed in the ABS journal quality list (CABS, 2015). A systematic search and analysis process, following the steps recommended by Tranfield et al. (2003), was used to identify 1899 papers that were gradually reduced through a filtering process to 276 papers. Using this process, a database was constructed containing details of theoretical perspectives, methodology, unit of analysis and reported findings.

As a result of the systematic literature review we found that a significant proportion of sustainable purchasing and supply management papers adopts stakeholder, institutional and resource-based theories (including ERBV and NRBV) as their primary perspective. A wide range of other theories are also being used to underpin sustainable purchasing and supply publications and often two or more complementary theories are used in combination, such as stakeholder theory and institutional theory.

Analyzing how the most popular theoretical perspectives have developed over time, we observed that stakeholder theory continues to be the most popular but the RBV, and its spin-off theory of NRBV, are increasingly used to underpin papers especially the last five-six years. In comparison, TCE is rarely used as a theoretical perspective in sustainable purchasing and supply research, which contrast with its usual popularity, or even dominance, in purchasing and supply research (Spina et al., 2013). However, although TCE has been suggested as a useful theoretical perspective for analyzing sustainable supply chain management phenomena (Carter & Rogers, 2008; Gimenez & Sierra, 2013), few authors have followed this suggestion. In our view this is not so surprising given that its inherent short-term transactional focus contrasts with the long-term view implied by the very definition of sustainable development.

We can observe that whereas early contributions (in the 1990s, but also a couple of earlier papers), rarely offered an explicit statement to specify a theoretical perspective, it is increasingly common to find such explicit statements. This suggests another trend in the sustainable purchasing and supply management literature: papers are more guided by theories than they used to be in the 1990s when many papers were somewhat anecdotal and tool-focused and contained few references to the academic literature — and many such papers still exist. In our view, this is testament to the development of sustainable purchasing and supply management as an emerging sub-field (see e.g. Harland et al., 2006; Chicksand, Walker, Radnor, Watson, & Johnston, 2012). But, this raises another question: what qualifies as a theory? Like Chicksand et al.'s (2012) analysis of the wider purchasing and supply chain management literature, we also observed that much of the sustainable purchasing and supply literature uses the notion of 'theory' very loosely. We found that around 15% of the analyzed papers claimed that they were based on 'supply chain management theory' where generally the papers simply referred to supply chain management models or literature. Using a similarly loose interpretation of what qualifies as theory, Defee,

Williams, Randall, and Thomas (2010) found that 53.3% of logistics and supply chain management papers are based on at least one theory, although in reality they include papers that simply make references to logistics or supply chain literature. In contrast, our analysis of theoretical perspective was deliberately more restrictive, only counting those papers that demonstrated actual application of one or more theoretical perspectives and not recording the use of general supply chain management models or literature as theory. For this reason we did not record papers focusing on more technical frameworks such as LCA or EMS but we do acknowledge that some might argue that such standards and frameworks may also be viewed as theoretical perspectives. Indeed, we might, of course, raise the same criticism in connection with the IMP Interaction Approach. However, our stand is that IMP undoubtedly provides a theoretical lens, including conceptual models and conceptual language, to analyze sustainable purchasing and supply phenomena. This has been demonstrated by the IMP papers identified in this paper (see Table 5) that make significant and in some cases unique contributions to the field showing the way ahead for future research.

We must stress that relatively few papers over the past decades rely on the IMP perspective, despite the IMP Interaction Approach being ideally suited to the study of this rapidly growing research area. This finding leads us to conclude that the IMP perspective is an opportunity for sustainability researchers seeking to better understand firm interaction in a network environment and vice versa sustainable purchasing and supply management represent a significant opportunity for IMP researchers that could both help to advance the existing research on sustainable purchasing and supply and at the same time theoretically advance IMP. In fact, with IMP strengths in interaction processes, customer-supplier relationship management and the conceptualization of embeddedness of actors in complex business networks, sustainable purchasing and supply management research presents a largely untapped opportunity for IMP-based researchers, an opportunity that requires closer ties between IMP and the dominant theories discussed in this paper.

Finally, we should emphasize the limitations of the particular methodology employed in conducting the research for this paper. We do not claim to cover all contributions to the field: as a consequence of the search terms used and the restricted secondary sources included, the review is not all inclusive and, in particular, does not include contributions in books, conference papers and journals that are not listed in the UK ABS journal ranking list (CABS, 2015). We do not dispute that many worthwhile and rigorous contributions have been made in non-ABS sources, but basing the review on this extensive list of journals nevertheless helped to ensure quality and consistency in the reviewed published sources. In discussing the analysis of journal papers, we deliberately included, therefore, references that are often seen as seminal and indeed these are often published as books or monographs. This goes some way to address the limitations of the systematic literature review methodology and helps to present a more complete analysis of the emerging field of sustainable purchasing and supply management.

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