FUTURE TRENDS FOR RESEARCH AND PRACTICE IN THE MANAGEMENT OF GLOBAL SUPPLY CHAINS

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1 Introduction

In Chapters 1 and 2, a discussion about the remarkable POM history was developed in an attempt to set the stage for the chapters that follow and to help managers and researchers understand better the path of evolution and the current state of the POM field but also to help POM professionals, students, and researchers to be better prepared for the future.

In this chapter, we go one step further—we make an attempt to anticipate future trends for the area of supply chain management (SCM) that will likely impact SCM research and practice. We understand that it is always risky to try to predict trends for most areas of knowledge. However, we consider that by discussing some relevant trends in development in today’s world that influence supply chain management and by analyzing said potential of these trends to shape the future, we may help POM managers better prepare for what is to come. Then, based on the discussed trends and on the extant literature, we discuss the most relevant avenues and opportunities for future research in SCM, with an emphasis on the management theories that most likely can offer support for the development of the identified research opportunities.

1.1 Increase in Volatility

With global supply chains crossing borders, alongside the growing need for integration of decision-making processes, the chains are interconnected and their members are more interdependent. This interdependence means that an alteration in any link in the chain has an influence on practically all the other links (Kleindorfer and Saad 2005). The possibility of a catastrophic interruption in one or more links of the chain is a constant source of concern for managers today. The worry is not just concerning random natural phenomena like tsunamis, floods, or earthquakes that render plants or other facilities inoperative. Numerous other factors (Sheffi 2002; Christopher 2004) have caused substantial disruptions with a global panorama: strikes, sabotage, terrorism, exchange rate and commodity price fluctuations, economic crises affecting demand in certain regions, besides the entry of billions of people into the consumer markets, with the expansion of emerging countries causing a boom and placing great pressure on natural
resources. The result is a greater and growing volatility tendency in environments where global supply chains operate.

### 1.2 Increase in Complexity

Supply chains have had to contend with an unprecedented diversification and customization of products. According to Mik et al. (2011), the manufacturers of cell phones launched 900 more models in 2009 than they had launched in 2000 when cell phones were already an established technology. The number of different products, like drinks, cereal, and confectionery products, experienced an increase of more than 25% between 2004 and 2006 alone. This trend continues.

At the same time, the emergence of developing countries has created a massive number of middle-class consumers, making these consumer markets highly attractive to both domestic and multinational companies. However, the distribution of products in developing countries has great challenges like bad quality infrastructure in transportation and communication, difficulty of access to large sections of the population living in remote or non-urbanized regions, and non-existent or embryonic distribution structures (as in India and China, for example). This substantially increases the complexity and uncertainty of the global supply chains that serve these markets (Dobberstein et al. 2005).

Another contributor to the complexity of global supply chains is the tendency for an increase in commercial “returns” and manufacturer’s “recalls” that require the development of complex solutions for the reverse or closed-loop supply chains (Souza 2013; Ferguson and Souza 2010). The reason for an increase in returns is related to two factors. The first concerns the fact that markets are becoming more competitive and the policy of “no questions asked” for returns tends to be adopted as a competitive differential or, as it is in the U.S., a *sine qua non*. In the U.S., it is estimated (Blackburn et al. 2004) that around 6% of products sold by big retail stores such as Wal-Mart, Target, and Costco are returned for a great variety of reasons. In Europe, this percentage falls to around 1%, and in other countries, the percentage is even lower, but the tendency is for continued expansion of this effect. The second factor is the growth of e-tailing (internet business-to-consumer commerce). Today, products such as shoes and clothes are increasingly bought on the internet. As they are products that are intended to fit the body type of clients, up to 50% of these items are returned.

### 1.3 Increase in the Influence of Organized Society and Governments to Make Organizations Pursue the Triple Bottom Line (3BL)

Encouraged by the internet and its instruments, organized society through NGOs and government bodies started to demand that corporations and their supply chains assume greater responsibility for the environmental sustainability of the planet and for their social impact. As a consequence, many organizations are now adjusting their objectives accordingly; from aiming to maximize their results only in the traditional single “bottom line” (profit), some progressive companies are now striving to maximize their performance in the “triple bottom line” (3BL). The 3BL consists of 1) economic prosperity (profit), 2) environmental sustainability (planet), and 3) social responsibility (people). It has become clearer that profit should not be the only defining element of success in companies and economies. It is also important to consider the future of people (internal and external to the organization) and the planet. These concerns have increased because countries such as Brazil, Russia, India, China, and South Africa (the BRICS countries are great economies experiencing accelerated growth) and others have grown at unprecedented
rates, causing drastic increases in the consumption of the natural resources required to meet the needs of consumers. Furthermore, there are other potentially harmful effects of the current model of fast economic growth; to meet the energy and other production resource needs for accelerated growth, many companies have produced increasing quantities of polluting emissions which have not only polluted the air, water, and ground, but as scientists argue, have also been responsible for global warming.

At the same time, the disposition of products, wrappings, and other materials after their use has filled landfills at a rate that is no doubt unsustainable in the long term. To counter this, society has been reorganizing itself. Companies are pressured to change their processes and even their business models to reflect a greater concern with environmental sustainability and social responsibility. Furthermore, actions in production processes have implications for supply chains. The pressure to reduce the generation of waste calls for an increase in reuse and recycling. The management of reverse supply chains needed to implement reuse and recycling will be crucial for the supply chains of the future.

Some analysts believe that as long as societies use their pressure mechanisms to force companies to bear the real cost of their production processes, there will be a substantial change in the configuration of global supply chains. One example is the price of fuel. In most countries fuel prices do not include any charges or taxes to repair the environmental damage caused by its extraction, transport, and burning. If and when governments start to charge fuel-consuming companies for these damages, fuel and energy costs will multiply thereby rendering, for example, global sourcing less viable, as it depends on transcontinental transport, a recognized big fuel consumer. If this happens, in the medium- to long term we can expect a reversal in global sourcing with a possible tendency for re-insourcing and near-sourcing with a return to more intensive use of local or near suppliers, therefore, breaking global supply chains into more regional ones. This would have the side effect of reducing, to a point, the complexity of global chains today.

2 Implication of the Identified Trends for Practitioners

Considering these three tendencies, some competencies seem relevant for the management of future supply chains.

2.1 Competencies to Deal with the Rise in Supply Chain Volatility

To face volatile markets and supply conditions, the ability to act quickly is fundamental for companies—both in regards to internal production and also the external environment (the supply chain and its flows). In developing such supply chains, chain managers must develop greater flexibility and adaptability (Engelhardt-Nowitzki 2012). On the one hand, supply chain management must develop competencies to integrate their partner companies’ information systems to ensure the sharing of relevant information and the coordination of decision processes (Jin et al. 2014; Correa 2014) and performance improvement initiatives (Iida 2012) across these companies’ borders. The discussion about the bullwhip effect causes and possible solutions in Chapter 2 illustrates some ways in which supply chain managers have to deal with supply chain volatility.

On the other hand, it is important for supply chains to develop the competencies pertinent to the broad area of risk management. Not only the risk management associated with traditional accidental disruption factors such as defects, delays, and suppliers going out of business and random (such as natural) phenomena. There are also less obvious risk factors such as fluctuations in the prices of commodities and fuel, the financial and contextual situation of suppliers and
customers (Wiengarten et al. 2013) and ethical and legal questions concerning members of the chain (Sheffi 2005). See Sheffi (2015) for more discussion on this important theme.

2.2 Competencies to Deal with the Increase in Supply Chain Complexity

To deal with the expected increase in complexity, chain managers must develop competencies to adopt and manage innovative solutions, as the levels of complexity today and of the future are unprecedented. These competences start from understanding the drivers of supply chain complexity (Bode and Wagner 2015), for instance, intrinsically complex products, proliferation of products, complex supply chains, and complex distribution. Perhaps before dealing with increased complexity, managers can determine whether or not the complexity can be simplified. For example, the enormous diversity of products, assumed to be necessary in some companies, may be seen as counterproductive in the eyes of the client (some clients are put off when they have excessive options and some give up buying). However, for many industries, the increase in product variety appears inevitable and consequently some additional competencies may be useful.

2.2.1 The Use of Postponement

To accommodate the growing complexity brought about by product proliferation and the consequent increased risks of supply chain disruption, it is important to develop competencies related to the use of postponement (Yang and Yang 2010). Postponement means delaying the completion of the final product until after the client’s order has been received. This often results in performance improvement in many industries, in terms of inventory reduction and customer service (see e.g., Wong et al. 2011). One example can be the supply chains that sell wall paint. These chains wait for the client order in the retail store to come in before mixing the twelve or so standard colors. By doing so, they are able to transform these few simple shades into millions of possible final products. This involves innovative forms of designing products, of producing them, and of allocating production activities to the parties in the chain. In some situations, it will be necessary to redesign the chain but this, strategically, may be worth it.

2.2.2 Integration of Decision-Making Processes and Increased Collaboration

Another crucial skill to deal with greater complexity is the ability to integrate decision-making processes (Prajogo and Olhager 2012) and increase collaboration (Cao et al. 2010 provide a comprehensive literature review of supply chain collaboration in the chain by increasing information sharing, decision-making coordination (Jin et al. 2014), and aligning incentives within the chain. For this, high levels of trust are necessary. There are several ways to build trust and reduce supply chain complexity as perceived by companies:

• Decisions of outsourcing that observe the strategic implications about when to outsource and when to internally produce, and by doing so “distributing” the complexity among partners;
• Carefully selecting key partners in the chain to whom activities are outsourced, considering multiple aspects that include supplier location;
• Establishing long-lasting relations with the key-partners with whom the sharing of information and the integration of decision-making processes are intensified; and,
• Developing contractual forms and relationships with partners in the chain that better distribute risks and returns, in such a way that incentives of the chain partners are aligned (Narayanan and Raman 2004) resulting in less need for complex conflict resolution.

2.2.3 The Use of New Technologies

For some markets, new technologies such as three-dimensional printing (3D printing) or additive manufacturing can also offer very attractive options for dealing with complexity in supply chains. Unlike machining processes, which are subtractive, 3D printing is additive. Drawing on a computer-aided design file, an object is divided into paper-thin cross-sectional slices, which are then each printed out of liquid, powder, plastic, or metal until the object is complete. 3D printing is ideal for one-off batches of physical models, prototypes, tooling components, and spare parts in many industries (Jong and Brujin 2013), which require complex and frequently inefficient supply and distribution systems if these products are centrally produced and then distributed using conventional methods. For instance, think about the spare parts industry for an aircraft manufacturer. Hundreds of thousands of parts must be available when needed so that repairs can be done quickly to airplanes thereby reducing the time that they remain grounded. The complexity of dealing with this daunting stock management and logistical problem can be substantially reduced if the plans of the parts (instead of the parts themselves) are stocked in servers and electronically downloaded by locations whenever and wherever said parts are required to be “printed out” locally, to order, quickly, simply, and cheaply. 3D printing has great potential for use by supply chains that produce and deliver items that are required in great variety but in very small quantities, dispersed over a broad geographic area. 3D printing has a great potential to affect low-volume supply chains, possibly creating new business models and supporting new supply chain configurations (Cautela et al. 2014).

2.2.4 Segmentation of Supply Chains

One last competence worth mentioning in relation to complexity is related to operational focus. As discussed in Chapter 2, trade-offs are manifested in supply chains. The use of the same supply chain structure (the same logistics footprint—plants and warehouses, the same structure of transport) to produce and distribute products that compete in very different ways in the market can cause an unnecessary increase in complexity for the chain. The segmentation of the supply chain of a company based upon characteristics of the products they produce and distribute can not only increase the operational focus but also reduce complexity.

Fisher (1997) suggests that innovative products (with unpredictable demand, shorter life cycles, and frequent product launches) should be served by responsive (agile and flexible even if less efficient) chains; functional products (with more stable demand, longer life cycles and less frequent product launches) should be served by efficient chains (even if less flexible and responsive). See Chapter 2 for further insight. If a company has both innovative and functional products, according to this logic, it should be able to segment them accordingly and have each of them to be produced and distributed by separate, less complex, and more focused supply chains that are either responsive or efficient.
2.3 Competencies to Deal with the Increase in Pressure for 3BL

3BL requires that companies and supply chains incorporate the “Reduce, Reuse, Recycle” approach. These concerns have become an integral part of the supply chain (Mishra et al. 2012).

“Reducing” the use of resources requires a skill set that is very familiar to operations managers (e.g., lean thinking, Womack and Jones 2004) but also one that can contribute to improved environmental sustainability. Companies that have considerably reduced their environmental footprint (for example the Subaru plant in Indiana that is proud of having reduced the amount of waste sent to landfills to zero through the application of Reduce, Reuse, Recycle principles) have become masters in taking “lean” principles to the extreme. The goals are the same: waste reduction and continuous improvement. The unnecessary use of resources and the generation of emissions, waste, and solid residue are nothing more than wasteful. The use of “lean” principles can help chains to achieve higher levels of environmental sustainability. If this approach is used, the attainability of “green” (environmentally sustainable) supply chains and profitability can be seen as congruent, not conflicting, goals (Kumar et al. 2012).

The “Reuse and Recycle” parts require supply chain managers to develop competencies, governance structures, and collaboration with supply chain partners (Blome et al. 2014) in the management of the required reverse and closed-loop flows (Aitken and Harrison 2013). Reverse logistics and closed-loop supply chains are now essential in order to ensure that less non-renewable resources are extracted from nature and that less polluting material is sent into the air, water, and landfills. Many supply chains and corresponding logistics have always been developed to guarantee efficient unidirectional flows of materials from raw materials to the end consumer.

Building the reverse closed-loop logistics for flows to take products back after the end of their economic life to re-enter the supply chain as secondary input material poses new challenges for supply chain managers (Lievens and Vandaele 2012). For instance, how is it possible to make sure that consumers properly dispose of their products after use? How can a company reduce the uncertainty of the supply of used products in recycling operations? How can a company deal with different conditions of products that consumers want to recycle? How can a manager design logistical systems that, instead of taking products from a few units (manufacturers) to many (consumers), take used products from many (consumers) to a few units (recycling centers)? How can the economics of reverse and closed loop flows be reconciled so that viability is achieved? These are only some of the challenges posed by the increased importance of reverse flows in supply chains. A comprehensive literature about reverse logistics and closed-loop supply chains can be found in Govindan, Soleimani, and Kannan (2015).

One skill that may be important in responding to the increase in internal and external pressure for 3BL objectives is that of seeking, developing, and maintaining productive and collaborative partnerships with key pressure groups such as NGOs and government bodies. Partnership and collaboration with NGOs such as Greenpeace, for example, in some instances have proved to be more effective than confrontation. McDonald’s has responded to boycotts and accusations of indirectly causing deforestation in a positive way, working in partnership with Greenpeace and other NGOs, as much from a perspective of resolving problems as from public relations (Goldberg and Yagan 2007).

Another useful competency in terms of guaranteeing social responsibility, not only of the company in focus, but also of partners in the chain is the mapping out and management of risk factors, for example, of partners using child labor or placing workers in inhumane working conditions. This should include not only direct suppliers but also suppliers’ suppliers. For instance, the findings of Awaysheh and Klassen (2010) suggest that there is a relationship between supply...
chain structure and suppliers’ socially responsible practices. The supply chain managers of the future need to have a profound understanding of such issues.

3 Directions for Research in Supply Chain Management

The debate over rigor versus relevance in research continues among supply chain researchers and practitioners. According to Thomas et al. (2011), some people believe that the relevance of academic research is more important. They want to avoid becoming overly rigorous or practically irrelevant. At the other end of the spectrum, some people suggest that rigor needs to come first to prevent the dissemination of bad research. Between the two ends, a third view contends that both rigor and relevance are needed so that research is both interesting to many constituencies and trustworthy. We believe that the third view represents what we as researchers need to do if we want the discipline of supply chain management to maximize its contribution to society.

Managerially relevant research is “knowledge that managers can use to better understand phenomena relating to that which they manage” (Carter 2008, p. 78). Academically rigorous research tries to cultivate a deeper understanding of a concept by applying valid and reliable research methods and approaches while examining the implications of important theories for that concept. As Connelly et al. (2013, p. 227) put it,

Building theory in this way is valuable, in part, because doing so allows scholars to describe a concept in vivid detail, explain its importance, position it within the field of study, identify its implications and predict how it affects and is affected by related phenomena and ideas (Dubin 1978; Kerlinger 1986). Applying one theory provides a basis to develop research questions, explore relationships, and create ideas that describe, explain, and predict, but broader approaches can offer even greater potential.

In this section, an attempt is made to draw from a number of contributions found in the literature to describe some opportunities for future research (that hopefully ends up being both rigorous and relevant) in the field of global supply chain management. In order to do that, we reviewed some papers published since 2008 (Connelly et al. 2013; Carter and Easton 2011; Pagell and Shevchenko 2014; Parente et al. 2008; Sodhi et al. 2011; Daugherty 2011; Melnyk et al. 2014; González-Loureiro et al. 2015; Stank et al. 2011; Sanders and Zacharia 2013) that have proposed agendas for future supply chain management research. We will also discuss some relevant theories that could shed light on and support the proposed research opportunities.

3.1 Supporting Theories

In our literature research, the following theories are found to be related to and useful for several aspects of global supply chain management:

- **Real options theory (ROT):** ROT is an alternative framework in the theory of investment decisions which modifies the traditional Expected Net Present Value theory. It explores the important consideration of including opportunity and risk when exploring factors that affect companies’ performance (Connelly et al. 2013; Amram and Kulatilaka 1999; Contractor et al. 2011).
- **Internationalization theory (IT):** a set of theories that aim to explain why some firms pursue foreign direct investment and others do not (Connelly et al. 2013; Hymer 1976; Dunning 2003).
- **Transaction cost economics (or theory) (TCE):** Transaction costs are the total expenses, both direct and indirect, of carrying out an exchange, whether it is between firms or within a firm. TCE
suggests that sourcing (the “make or buy” decision) decisions are made by firms in a way that transaction costs are minimized (Connelly et al. 2013; Williamson 2008).

- **Agency theory (AT):** studies contracting in terms of “principals” who hire “agents” to carry out activities on their behalf, focusing on potential information asymmetry and conflicting interests with some possibility of moral hazard (Connelly et al. 2013; Eisenhardt 1989).

- **Resource dependence theory (RDT):** analyzes how companies seek to maintain control of vital resources. They establish relationships with others to acquire those resources when they lack them thereby losing total control over its destiny; they then seek to alter those relationships to minimize dependency (Connelly et al. 2013; Medcof 2001).

- **Social network theory (SNT):** centers on the relationships (or ties) a firm has with surrounding firms. According to SNT, firms’ decisions are based, in large part, on information and influence that arise from their social network (Connelly et al. 2013; Thoreli 1986).

- **Institutional theory (Inst):** describes how pressures to gain legitimacy arise from both formal (e.g., regulatory bodies) and informal (e.g., social influences from actors such as the media, NGOs, or trade associations) institutions and how they influence a firm’s decision making (Connelly et al. 2013; Suchman 1995).

- **Game theory (GT):** game theory’s utility relates to changing viewpoint: from decisions made by competitors as exogenous towards the endogeneity of decisions within a system. In such a system, all incumbents seek the common benefit instead of the individual one (González-Loureiro et al. 2015; Smith 1982).

- **Stakeholder theory (ST):** analyzes how organizations manage issues related to their morals and values while seeking to maximize their performance in trying to balance and meet all their stakeholders’ goals and expectations (González-Loureiro et al. 2015; Freeman 1984; Donaldson and Preston 1995).

### 3.2 Proposed Research Directions in Supply Chain Management

Some directions for further research are proposed here, with theories that might support them, whenever appropriate. The same structure that we used in Section 1 of this chapter will be used here to classify the topics that represent future trends in supply chain management: increased volatility, increased complexity, and increased pressure for 3BL.

#### 3.2.1 Future Research Related to Increased Volatility

At a strategic level, Melnyk et al. (2014) offer directions for further research in terms of supply chain design in relation to the recognition that supply chains do not always remain static:

- What type of supply chain features foster supply chains that can easily adapt and change? Correspondingly, what types of features inhibit changes in supply chain design?

- What factors signal (trigger) the need for supply chain redesign?

- What types of technique, procedure, or analytics can be used to improve supply chain redesign?

At a tactical level, volatility is affected by the bullwhip effect. Although solutions to mitigate the bullwhip effect have received attention from the literature (Lee et al. 1997), implementing those technical solutions is still difficult for many companies and their supply chains. Researchers can provide a great service to practitioners if they focus on the implementation of actions that mitigate the bullwhip effect. Coordination and collaboration are key aspects here. Theory supported exploration of successful and unsuccessful cases in which more and better collaboration...
and cooperation were achieved would be very instructive. A variety of theories that could lend their support, depending on the approach and research question: Game theory (GT)—in analyzing how to turn win-lose into win-win relationships in the supply chain—and Agency theory (AT)—in aligning incentives among partners in the supply chain for a “common good.”

Additionally, one of the most important opportunities for further research on increased levels of volatility in supply chains is supply chain risk management (SCRM). In their survey with supply chain researchers, Sodhi et al. (2011) found three gaps pertinent to future research in supply chain risk management: (1) no consensus on the definition of SCRM, (2) lack of research on response to supply chain risk incidents, and (3) a shortage of empirical research on SCRM. To close the gaps, they also suggest more involvement of researchers with industry for case studies and event based (such as critical incident) research; they also call for more conceptual work on which to base the empirical research. Real options theory (ROT) could offer support because of the categories it covers (e.g., risk). Institutional theory (InsT) could be useful in helping with the inclusion of formal and informal actors who insist that companies understand and mitigate supply chain risks. Agency theory (AT) can offer support because managing risk in supply chains requires including the consideration of several tiers of suppliers and customers, many of which can be considered “agents” of the company in analysis.

3.2.2 Future Research Related to Increased Complexity

Supply chains continue to become increasingly complex over time. As companies outsource their activities to expert companies, the interfaces between a company and its partners in the supply chain grow not only in number but in complexity of the relationships established because in supply chains, in many situations, collaboration and cooperation between partners is preferable to conflict. Here, Daugherty (2011) offers some suggestions for future research on supply chain relationships, motivated by some accounts in the literature that “successful collaborative relationships between a firm and its core suppliers is still rare.” Daugherty argues that research is needed to look at current buyer-seller relationships.

Here are some research questions (based on Daugherty 2011; Stank et al. 2011; and others) and theories related to managing relationships in global supply chain management:

- Are the problems (with supply chain relationships) encountered due to temporary or cyclical influences such as the economy or are our partnership/alliance models flawed? (TCE, AT, RDT theories)
- How do we extend current collaborative relationships to look beyond one buyer and one seller to encompass multiple tiers of suppliers and multiple tiers of customers? (AT, SNT theories)
- What are the trends in outsourcing? How can effective sourcing contracts be crafted? What types of outsourcing arrangements yield the greatest enhancements to service productivity and success? (TCE, RDT, GT theories)
- How do cultural differences affect day-to-day interactions and the success of long-term relationships? (IT, ST theories)
- Buyer-seller partnerships or alliances do not involve equal partners. Given that, what can be done to improve chances of relationship success and protect the less powerful partner? (ST, GT, AT theories)
- How can the performance of partners and partnerships in the supply chain be measured so that trust is fostered, accountability is present, and incentives are aligned (Stank et al. 2011)? (GT, ST, AT theories)
The issue of governance also becomes crucial as complexity increases in supply chain management. González-Loureiro et al. (2015, p. 171) suggest that more research is needed about “the internal organization of the supply chain: which organization must take the leading role and how to distribute the coordination efforts?” According to the authors, “there is a need to broaden the perspective from the (individual) firm to the supply chain as an informal form to organize the industrial economic activity, i.e., the idea of the extended firm.” Here theories such as InsT, AT, RDT, and ST could be of help.

3.2.3 Future Research Related to Increased 3BL Performance

Carter and Easton (2011) offer future research directions that will support companies and their supply chains to increase their 3BL performance, based on their extensive literature review of the topic. They notice that researchers in the field commonly use multi-industry samples and that this may represent an important research opportunity: to take deeper dives into individual industries (e.g., service supply chains) as sampling frames so that specific types of sustainability activities that are germane to those industries are identified and also industries in which the boundaries of specific theories might be extended or shown not to apply.

Supply chain managers are in a particularly advantageous position to impact—positively or negatively—environmental and social performances (Carter and Easton 2011). Although they adopt the terminology “Sustainable Supply Chain Management” (SSCM) and call for further research on the issue, Pagell and Shevchenko (2014) argue that sustainable supply chain management should have no future. Their intention is to state that all supply chains will use SSCM in the future. Therefore, the term becomes redundant. In other words, they think that in the future the “un-sustainable” supply chains will not be around anyway.

In their literature search, Carter and Easton (2011, p. 55) also observe one striking result was the “relative dearth in the use of a theoretical lens to examine problems of interest in the sustainability arena.” They also observe that there is an encouraging trend toward integrating theory in SSCM research. They observe that of the theories that have been used Stakeholder theory (ST) is the most prevalent and that Transaction cost economics (TCE) is one of the lesser used theories in the SSCM literature that they reviewed. Pagell and Shevchenko (2014) offer some insights in terms of SSCM future research directions. First, they argue that the extant research has frequently asked the question “does sustainability pay?” However, this is the wrong question going forward. The question should be “how to create supply chains that are sustainable?”—what requires more multi-disciplinary research that explicitly looks at the supply chain from the perspective of other stakeholders, such as government, NGOs, communities, and the natural systems where the chain operates. Here, Stakeholder theory (ST) can be of help. Pagell and Shevchenko (2014) also see great research opportunities when it comes to “measurements” in SSCM: measuring a single link in the chain and not the impact of the entire chain according to the authors is very challenging but absolutely necessary and under-researched. Here, theories such as AT, SNT, and IT could offer interesting insights.

4 Conclusion

The evolution of the management of global supply chains is occurring in a more accelerated form than in previous phases of POM’s evolution (see Chapters 1 and 2), and the levels of volatility, complexity, and social pressure on supply chains today and in the future do not have historical precedence, requiring all the competencies needed in the previous phases of evolution and some additional ones. It is important that companies are conscious of what these are for their specific environment and that they prepare, arming themselves with them, to face the challenges ahead.
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