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IS OPERATIONS MANAGEMENT INCLUDED WITHIN SUPPLY CHAIN MANAGEMENT, OR IS SUPPLY CHAIN MANAGEMENT A PART OF OPERATIONS MANAGEMENT?

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A B S T R A C T

Operations Management (OM) and Supply Chain Management (SCM) are closely intertwined disciplines, yet academic and professional debates persist regarding their proper hierarchical relationship. This viewpoint paper argues that OM is best understood as a branch within the broader domain of SCM. Drawing on evolving definitions and theoretical frameworks, the paper outlines how OM's internal focus on efficient transformation processes fits as a vital subsystem of the end-to-end supply chain system. Key theoretical foundations, including General Systems Theory, Porter's Value Chain model, and the APICS Supply Chain Operations Reference (SCOR) framework, all support a holistic view where operations are one component of an integrated value-delivery network. Through conceptual clarification of terms, the paper demonstrates that modern thinking subsumes OM within SCM. Counterarguments, including the view that SCM might fit within OM or that they are distinct domains, are presented and rebutted. The paper concludes with implications for theory development, future research, education, and managerial practice.

1. INTRODUCTION

For several years, academics and industry experts have participated in discussions about the connection between Operations Management (OM) and Supply Chain Management (SCM). This debate mainly features two contrasting views: one asserts that SCM is a subset or a specialised extension of OM, while the other claims that OM is a vital element within the broader framework of SCM. The central question remains: Is operations management included within supply chain management, or is supply chain management a part of operations management? This paper argues that OM is best understood as a segment within SCM, indicating that supply chain management acts as the overarching framework in which operations management functions.

Operations Management is traditionally described as the management of processes that transform inputs (such as materials, labour, and information) into outputs (goods and services) within an organisation (Stevenson, 2021). In other words, OM can be defined as "the administration of systems or processes that produce goods and/or deliver services" (Stevenson, 2021). At its core, OM focuses on achieving excellence in internal processes by designing, implementing, and improving the daily production and service operations occurring within a company. On the other hand, Supply Chain Management is commonly defined as the coordination of activities across different organizations and functions to deliver products or services from their raw material sources to end consumers. For example, Mentzer et al. (2001) define supply chain management as "the systematic, strategic

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coordination of conventional business functions and the tactics across these functions within a single company and between organizations within the supply chain, aimed at enhancing the long-term performance of both the individual companies and the overall supply chain." This demonstrates that SCM spans organizational boundaries, connecting multiple entities (suppliers, manufacturers, distributors, retailers) and various functions (procurement, operations, logistics, marketing, etc.) with a strategic and comprehensive outlook.

This paper supports the notion of viewing the supply chain perspective as encompassing operations management, aligning with modern systems thinking. Here, SCM serves as the broader structure, while OM, despite its significant role, represents just one component of that system. To reinforce this argument, the paper will (a) delve into the historical background and changing interpretations of OM and SCM, (b) reference theoretical foundations (General Systems Theory, Porter's value chain, and the APICS SCOR model) that conceptually situate operations within a larger system, (c) assess authoritative frameworks and definitions from Stevenson, Mentzer et al., Chopra & Meindl, and others to clarify the differences between OM and SCM, (d) demonstrate how OM contributes to key supply chain objectives such as efficiency, responsiveness, and quality, (e) consider counterarguments (including the idea that SCM may fall under OM or that they should be treated separately) and provide counterpoints, and finally (f) explore implications for theory, research, education, and managerial practices, along with the limitations of this perspective. By examining both sides of the debate regarding whether operations management (OM) should be viewed as part of supply chain management (SCM) or vice versa, this paper ultimately supports the view that OM can be understood as a subsystem of SCM, thereby enhancing conceptual clarity.

2. BACKGROUND & DEFINITIONS

The fields of operations management and supply chain management have progressed over time, often concurrently, resulting in evolving boundaries and some confusion regarding terminology. Traditionally, what we now refer to as Operations Management can be traced back to "production management" or "industrial management," concentrating on the effective production of goods within a single organization (Ferrell, Hirt, & Ferrell, 2021). Initially, the focus of OM was internal, concentrating on factory management, workforce, equipment, and material handling within an organization's confines to enhance productivity and quality. Over the years, OM broadened to incorporate service operations and adopted various new approaches (e.g., Total Quality Management, Lean manufacturing). Yet, it remained focused on intra-firm processes (Ferrell et al., 2021). Stevenson points out that operations represent one of the three core functional areas in any business (alongside finance and marketing), tasked with generating goods or services within the firm (Stevenson, 2021). In essence, OM traditionally addresses how an organization efficiently converts inputs into outputs internally.

Conversely, Supply Chain Management is a more contemporary concept that surfaced in the late 20th century when businesses began recognizing the significance of inter-firm collaboration. The term "supply chain management" originated in the early 1980s (with consultants like Oliver and Webber often credited in 1982) and became more widespread in the 1990s (Mentzer et al., 2001). SCM developed from earlier ideas of logistics and physical distribution. Initially, many regarded SCM merely as an extension of logistics, emphasizing the movement of materials and products through procurement, transportation, and distribution. However, as the concept evolved, SCM began to cover much more than logistics, integrating purchasing, operations, and even marketing aspects across different organizations. Mentzer et al. (2001) noted that SCM has been defined in numerous, sometimes ambiguous, ways within various contexts. Specifically, different authors and organizations provided varying definitions: some linked SCM to integrated logistics or supply chain process management, while others described it as a more extensive management philosophy. Lambert, Stock, and Ellram (1998) emphasized the importance of overcoming functional boundaries and adopting a process-oriented approach across the supply chain, viewing activities like procurement, manufacturing, and distribution as part of a cohesive set of processes rather than as separate functions (Lambert et al., 1998). The Council of Logistics Management (1985) defined "logistics" narrowly, and early debates highlighted this distinction from SCM, asserting that SCM was intended to be more comprehensive.

3. ESTABLISHING WORKING DEFINITIONS FOR THIS PAPER

Operations Management (OM) refers to the oversight of the processes and resources within a single organization responsible for producing goods or services. This encompasses activities such as product design, process design, planning and scheduling, delivery of production/service, quality assurance, and ongoing improvement, all conducted within the company. As noted by Stevenson (2021), OM is "the management of systems or processes that create goods and/or provide services." Operations managers concentrate on enhancing internal efficiency, effectiveness, and building capabilities (in technology, human resources, and facilities) to ensure that the organization can fulfill customer demands with high quality and minimal cost.

Supply Chain Management (SCM) is defined in accordance with prominent literature as the administration of the flows (material, information, and financial) and relationships that extend across organizational boundaries to provide value to the final customer. A well-known definition by Mentzer et al., (2001) highlights the importance of systemic coordination among various business functions and organizations for sustained performance. Alternatively, Chopra and Meindl refer to a supply chain as encompassing "all stages involved, directly or indirectly, in fulfilling a customer request," which includes not only manufacturers and suppliers but also logistics providers, warehouses, retailers, and even the customers themselves (Chopra & Meindl, 2019). Notably, "within each organization, the supply chain comprises all functions responsible for receiving and satisfying a customer request… including, but not limited to, new product development, marketing, operations, distribution, finance, and customer service" (Chopra & Meindl, 2019). This view emphasizes that operations are a crucial component within the supply chain framework. In practice, SCM entails planning and coordinating not just the movement of goods from raw materials to finished products, but also aligning production schedules, sharing information (like forecasts and sales data), and fostering collaboration among partners to enhance the entire system.

4. THEORETICAL FOUNDATIONS FOR VIEWING OPERATIONS IN A BROADER SYSTEM

4.1. General Systems Theory and the Systems View

General Systems Theory, introduced by Ludwig von Bertalanffy (1968), posits that a complex entity can be interpreted as a system made up of interrelated components, with the system's behavior arising from the interactions between these components and their environment. A fundamental principle of systems theory is holism, emphasizing that the whole exceeds the mere sum of its parts. In management, adopting a systems perspective means viewing an organization as an integrated entity comprised of interdependent subsystems (such as operations, marketing, finance) working towards shared objectives (Helou & Caddy, 2006). Furthermore, systems theory differentiates between closed systems, which are self-sufficient with limited interaction with the environment, and open systems, which continually engage with and adapt to their surroundings (Helou & Caddy, 2006). Contemporary organizations, particularly within supply chain frameworks, are characterized as open systems reliant on external suppliers, customers, and information exchanges, necessitating adaptation to market and technological shifts.

When applying General Systems Theory to Operations Management (OM) and Supply Chain Management (SCM), it becomes evident that a manufacturing plant or service operation does not exist as an isolated closed system; it functions as a subsystem within a broader supply chain system. Von Bertalanffy's insights suggest that enhancing one segment of the system (like factory operations) independently may not benefit the entire system, making it essential to analyze how that segment interacts with both upstream and downstream elements (suppliers and distributors) (Helou & Caddy, 2007). Helou and Caddy (2006) specifically state that supply chains can be analyzed through the framework of general systems theory, asserting that treating supply chains as systems provides vital insights for their architecture and administration. The operations of each firm can be viewed as a subsystem that receives inputs from other subsystems (such as suppliers) and delivers outputs to additional subsystems (like distributors or retailers). This hierarchical structure underlies the rationale for situating operations management within supply chain management, where the supply chain is the overarching system and individual operations (like production or processing units) act as components whose functions must align for optimal overall system performance.

Systems thinking highlights the significance of feedback loops and interdependence. For instance, if a manufacturing facility (an OM subsystem) produces defective parts, the subsequent assembly plant or end consumers will relay that information back (through complaints or returns), impacting supply chain performance. Similarly, changes in market demand (environmental shifts) will communicate back through the supply chain, necessitating adjustments in production rates. A narrow operations perspective may concentrate solely on internal efficiency, whereas an open-systems perspective (supply chain) mandates a consideration of how external factors and partners can influence operational decisions. In summary, General Systems Theory offers a theoretical foundation for evaluating operations management choices within the context of the larger supply chain. It reinforces the idea that for the entire system (the supply chain) to be optimized, one must integrate and align the objectives of each individual part (operations) with the collective goals of the whole system.

4.2. Porter's Value Chain Model

Michael Porter's Value Chain framework, introduced in 1985, provides a model that places operations within a larger sequence of interrelated activities. Porter views a firm as a sequence of value-creating actions that convert inputs into customer-valued outputs (Porter, 1985). These actions are categorized into primary activities those directly involved in the creation and distribution of goods and services and support activities that facilitate these primary ones. Significantly, Porter delineates five primary activities: Inbound Logistics, Operations, Outbound Logistics, Marketing & Sales, and Service. Inbound logistics involves the receipt and storage of raw materials from suppliers. The term Operations in Porter's context refers to the conversion process of inputs into final products essentially what is understood as internal operations management (Porter, 1985). Outbound logistics encompasses warehousing, transportation, and distribution of finished products to customers. Marketing and sales generate demand, while service manages post-sale product maintenance.

Porter's value chain is often illustrated as a horizontal arrow, depicting a flow from inbound logistics through operations to outbound logistics, and further supported by activities such as procurement, technology development, human resources, and firm infrastructure that bolster all primary activities. A key takeaway is that operations constitute a single link in this chain, taking the outputs from inbound logistics (the supplied materials) and enhancing their value through processing, subsequently passing them to outbound logistics, which delivers value to customers. The model aligns closely with a supply chain viewpoint: inbound logistics links the firm with suppliers, outbound logistics connects it with customers/distributors, and operations remains the internal value-generating engine in the midst. Gentry and Vellenga (1996) observed that it is rare for any one firm to independently execute all primary value chain activities and still optimize customer value. This reality drives firms to establish strategic partnerships such as focusing on operations while outsourcing some logistics or vice versa to collaboratively enhance value as part of a supply chain (Gentry & Vellenga, 1996). Hence, Porter's framework inherently aligns with a supply chain mentality, asserting that value accumulates and flows through various activities, some of which may exist outside the focal firm. The operations function lies between supplier- and customer-facing activities, highlighting that without managing these connections, excellent operations can become ineffective (for example, producing high-quality products that logistics fail to deliver timely, or providing speedy shipments of subpar products).

Applying Porter's model, one can assert that supply chain management (SCM) is, in essence, the overarching coordination of all primary value chain activities across various firms. In a multi-firm supply chain, one firm's inbound logistics correspond to its supplier's outbound logistics; similarly, one firm's operational outputs serve as inputs for another's processes. This weaving together of value chains across firms constitutes what is recognized as a supply chain. Thus, when considering the entire chain, "Operations" represents a component of the necessary activities. For example, in the automotive industry supply chain, Company A (a parts manufacturer) conducts operations to produce components, while Company B (the vehicle manufacturer) conducts operations to assemble the finished products; both engage in logistics and marketing/service functions (especially Company B). The value chain framework integrates these activities, indicating that operations management at each stage is integral to the overall value delivery process. While Porter's model initially focuses on individual firms, it aligns well with an SCM perspective, underscoring that operations do not exist in isolation—they are surrounded by supply and distribution activities within the chain (Porter, 1985). To achieve a competitive advantage (Porter's main premise), businesses must manage not merely their internal operations but also how these integrate with upstream and downstream steps that add value. This supports the assertion that operations management should be perceived through the lens of supply chain management.

4.3. APICS Supply Chain Operations Reference (SCOR) Model

A third fundamental framework is the Supply Chain Operations Reference (SCOR) model, created by the Supply-Chain Council (now under APICS/ASCM). SCOR serves as an industry-standard model that offers a process-reference framework for supply chain management and connects business process modeling, performance metrics, best practices, and necessary skills. The SCOR framework (version 12.0, APICS 2017) includes six essential process types: Plan, Source, Make, Deliver, Return, and Enable. These processes encompass activities from strategic planning and sourcing raw materials to manufacturing (operations), delivering products, managing returns, and the support processes essential for these activities.

Importantly, "Make" in SCOR relates to Operations Management — the process where value is generated through manufacturing or production of goods (APICS, 2017). However, "Make" is just one aspect among the six; it is situated centrally within the Plan–Source–Make–Deliver sequence (with Return processes accounting for reverse logistics, and Enable serving as an overarching supporting layer). This model demonstrates that effective supply chain management includes planning (balancing demand with supply, aligning resources), sourcing (procurement and supplier management), making (transforming inputs into outputs), delivering (fulfilling orders and managing logistics), and handling returns (such as defective or obsolete products) (APICS, 2017). Surrounding these processes are "Enable" functions, which involve data management, facility oversight, and other cross-functional activities.

The APICS (2017) SCOR framework promotes an integrated perspective: it includes "all customer interactions throughout the complete order-to-invoice process," addressing all materials and services from suppliers through fulfillment. Standardized definitions are utilized that can fit both simple and complex supply chains across any industry (APICS, 2017). In the SCOR framework, operational activities (such as product manufacturing) cannot be effectively managed independently as they depend on prior sourcing and follow with delivery. The performance of the "Make" process hinges on the timely provision of quality materials from "Source" and directly influences how well "Deliver" can meet customer demand. SCOR also identifies performance attributes like reliability, responsiveness, agility, cost, and asset efficiency that span across the supply chain (APICS, 2017). To achieve high performance in these areas requires coordination of all components. For example, responsiveness (supply chain speed) relies not just on production cycle time (an OM measure) but also on logistics transit time and supplier lead times. This relationship highlights that operational excellence is a component of, rather than the sole driver of, supply chain excellence.

Viewing the supply chain through the SCOR lens provides a practical, process-based validation that Operations Management is integral to Supply Chain Management. The “Make” process (operations) is one key pillar of the model, standing alongside equally vital pillars, such as “Source” and “Deliver.” Prominent professional organizations (APICS/ASCM) advocate for companies to employ SCOR for evaluating and enhancing their supply chains. This process compels companies to enhance their internal operations (such as manufacturing efficiency and quality) in tandem with improvements in sourcing and distribution. This integrated approach contrasts with a siloed perspective, where an operations manager might attempt to optimize manufacturing output without considering inventory buildup or downstream demand fluctuations. SCOR, similar to Porter’s value chain, dissolves these artificial barriers. It posits that effective supply chain management necessitates the harmonization of planning, sourcing, operations, and other components. Thus, operations management activities (“Make”) are framed within the overarching supply chain management context as defined by SCOR (APICS, 2017).

In conclusion, these theoretical frameworks systems theory, the value chain, and SCOR converge on a crucial insight: that internal operations are part of a broader interconnected flow or system that transcends the individual firm. In the following section, I will further elucidate these concepts by using specific definitions and frameworks from recognized authors to ensure clarity and alignment with contemporary thought.

5. CONCEPTUAL CLARIFICATION: FRAMEWORKS BY STEVENSON, MENTZER ET AL., CHOPRA & MEINDL

5.1. Stevenson’s Perspective: Linking Operations and Supply Chains

William J. Stevenson’s textbooks on Operations Management are extensively utilized, with later editions incorporating supply chain concepts more explicitly. He defines a supply chain as “the sequence of organizations their facilities, functions, and activities that are involved in producing and delivering a product or service” (Stevenson, 2021). This definition is insightful as it underscores that a supply chain consists of various organizations and functions (like purchasing, operations, and distribution) collaborating sequentially to create and deliver products or services. Stevenson also stresses that operations and supply chains are fundamentally connected and suggests that no business can function without both elements (Stevenson, 2021). He argues that the internal components of the supply chain activities and functions taking place within a firm are integral to the operations function itself (Stevenson, 2021). This notion closely aligns with my thesis, which posits that the supply chain encompasses internal operations, categorizing these components within the realm of operations management.

In essence, Stevenson views operations management as tasked not only with activities within a single facility but also with overseeing the internal aspect of the larger supply chain (Stevenson, 2021). For instance, in a manufacturing setting, the operations function involves handling internal supply chain tasks: obtaining materials (an inbound logistics task considered part of operations), processing those materials (core operations), and distributing final products either to another department or directly to customers (overlapping with outbound logistics). In this way, Stevenson effectively integrates a portion of the supply chain, the internal segment, into the operations function. Thus, one can interpret the overall supply chain (combining both internal and external flows) as a broader structure where operations are a vital component. Stevenson’s framework highlights that an organization's operations are interconnected; they link upstream with suppliers and downstream with customers, creating a cohesive chain. In his teachings, OM and SCM are intertwined, signifying the necessity of coordinating internal processes with external flows for successful operations.

Moreover, Stevenson (2021) points out the interrelatedness of operations with key business functions such as finance and marketing, emphasizing that the supply chain concept encompasses these areas. For example, marketing may project demand affecting the supply chain, finance may assess make-or-buy and inventory choices along the chain, while operations are responsible for producing the product. Acknowledging this interdependence reinforces the view of the supply chain as a collaborative environment for these functions. Many OM textbooks now incorporate discussions on supply chain strategy, outsourcing, and inventory management that extend beyond the production setting, further blurring rigid distinctions.

In conclusion, Stevenson presents definitions and an educational structure that support the idea of operations as part of a broader chain. The internal supply chain, managed by operations within a company, connects to the external supply chain overseen by supply chain managers, necessitating seamless integration between both aspects. His viewpoint does not set OM against SCM; rather, it illustrates their interrelationship, where operations management oversees the internal processes of the supply chain, suggesting that SCM constitutes the wider network.

5.2. Supply Chain Orientation vs. Supply Chain Management

Mentzer et al. (2001) published a significant paper in the Journal of Business Logistics aimed at clarifying the concept of “supply chain management” through a review of definitions and a proposed unified framework. A key contribution of this work was the distinction made between Supply Chain Orientation (SCO) a managerial philosophy that views operations within the entire supply chain and Supply Chain Management (SCM), defined as the application of this philosophy across different firms. This clarification emphasises the need for managers, including operations managers, to cultivate a broad, systematic perspective (SCO) even before establishing formal inter-firm SCM practices. Organizations adopting a supply chain orientation understand the critical need to coordinate upstream and downstream activities, recognizing their operations' role within a larger system (Mentzer et al., 2001). For instance, such a firm would consider how its production timetable impacts suppliers and customers alike, regardless of whether collaborative SCM practices are in effect.

Mentzer et al. (2001) provide a comprehensive definition of Supply Chain Management that explicitly includes the coordination of activities both within an organization and among multiple firms. They highlight the involvement of various business functions in SCM, such as sourcing, manufacturing, marketing, logistics, and customer service, stressing the need for integration across these areas to achieve effective SCM (Mentzer et al., 2001). They identify that different interpretations of SCM in existing literature have caused some confusion. By clarifying the differences between SCO and SCM, they assert that merely optimizing internal processes an approach typical in traditional operations management without addressing external integration does not constitute full SCM. Nevertheless, the orientation should already be ingrained at the operational level.

Another pertinent aspect of Mentzer et al. (2001) work is their reference to earlier studies (e.g., LaLonde, 1997; Ross, 1998) that define SCM as the management of relationships, information, and material flows across organizational borders. This highlights that the various flows into, through, and out of an enterprise contribute to a larger continuum from source to end customer. Additionally, Mentzer et al. compiled a series of key supply chain processes that extend beyond traditional functional boundaries, including customer relationship management, demand management, order fulfillment, manufacturing flow management, procurement, product development, and more (Mentzer et al., 2001; Lambert et al., 1998). Notably, “manufacturing flow management” is recognized as a crucial process alongside others, further emphasizing the integral role of operations within the supply chain.

The insights from Mentzer et al. reinforce this thesis by indicating a scholarly consensus among supply chain experts that these varied functions and processes belong to the broader domain of supply chain management. When operations managers adopt a supply chain orientation, they genuinely engage in SCM thinking, aligning internal operations with external demands. Thus, the effective implementation of SCM requires coordination across multiple firms (Mentzer et al., 2001). In conclusion, this framework advocates for dissolving boundaries between internal and external organizational perspectives, implicitly reminding operations managers that their role transcends merely managing a production line; they are integral nodes within a larger supply chain network. Through this approach, Mentzer et al. (2001) substantiate the view that operations management cannot be divorced conceptually from supply chain management.

5.3. Chopra & Meindl (2019): Supply Chain Definition and Scope

Sunil Chopra and Peter Meindl’s textbook, “Supply Chain Management: Strategy, Planning, and Operation”, (2019), serves as an authoritative resource in the field. In the early sections, they define a supply chain broadly: “A supply chain consists of all parties involved, directly or indirectly, in fulfilling a customer request.” This definition encompasses not only external partners (such as suppliers, transporters, warehouses, retailers, and customers) but also includes various internal functions like new product development, marketing, operations, distribution, finance, and customer service (Chopra & Meindl, 2019). This clearly situates operations as an integral internal component of the supply chain network. Furthermore, the authors characterize supply chain management (SCM) as the proactive coordination of supply chain activities aimed at maximizing customer value and achieving sustainable competitive advantage, which spans product development, sourcing, production, logistics, and the necessary information systems.

Chopra and Meindl (2019) categorize supply chain decisions into three main areas: strategy/design, planning, and operation (execution). Notably, this arrangement emphasizes that operational decisions, like scheduling and batch sizing, take place within the strategic framework established by the supply chain design. They introduce perspectives such as the cycle view (which includes procurement, manufacturing, replenishment, and customer order cycles linking adjacent stages) and the push/pull view, which distinguishes between operations based on customer orders versus demand anticipation. Their teaching approach is distinctly integrative, treating subjects such as inventory management, network design, procurement, and production planning as interconnected aspects of supply chain management.

From Chopra and Meindl (2019) viewpoint, attempting to isolate "operations management" from supply chain management is misaligned, as fulfilling customer requests is inherently a cross-functional and cross-organizational activity. They emphasize that achieving superior supply chain performance necessitates coordination among various functions, including operations (Chopra & Meindl, 2019). For instance, to maximize supply chain surplus (defined as the customer value created minus the total costs in the chain), it’s essential to synchronize the roles of product development (designing manufacturable and distributable products), operations (efficient and quality production), and logistics (swift and cost-effective product movement). They also outline how specific supply chain drivers (facilities, inventory, transportation, information, sourcing, and pricing) interact, noting the significance of facilities and inventory decisions within supply chain design.

In conclusion, Chopra and Meindl (2019) clearly articulate that operations are a crucial internal function within the broader supply chain framework. They teach future managers that enhancing operations (through methods such as lean manufacturing or flexible production systems) can significantly improve overall supply chain performance, thereby enhancing both efficiency and responsiveness. Their identification of operations as a function within each company's role in the supply chain (Chopra & Meindl, 2019) underscores that operations management is a vital branch of the larger SCM tree. SCM can be viewed as the ecosystem that interlinks all these branches to provide value to the end customer.

6. COUNTERARGUMENTS AND REBUTTALS

For a balanced analysis, it’s essential to consider the contrary perspective: some suggest that SCM may be a subset of OM instead of the other way around, or that both are separate but parallel fields rather than structured in a hierarchy. The main counterarguments are: (1) Operations management encompasses a broader range of issues (such as internal strategy and technology management) that supply chain perspectives do not entirely address, (2) SCM has originated mainly from logistics, making it narrower compared to OM, which encompasses all transformational processes, (3) viewing OM as subordinate could minimize the significance of internal capabilities or might be less applicable in situations where external coordination is simpler (for instance, small businesses or highly vertically integrated companies), and (4) categorizing OM as a part of SCM could undermine the unique tools and methodologies of OM. I will explore these points further and provide counterarguments that support my preference for the “OM within SCM” framework.

Counterargument 1: "Operations management encompasses all internal processes, some of which may not relate to supply chains." Supporters of OM's centrality highlight that operations management addresses a variety of internal matters such as process design, facility layout, job design, maintenance, and elements of product development. Not all these issues are directly concerned with the transfer of materials between organizations. For instance, managing a hospital’s emergency department involves tasks like scheduling doctors, sorting patients, and ensuring equipment availability internal operational challenges focused on efficiency and quality that may not seem connected to a traditional “supply chain” (as the hospital doesn’t transport products through a network like a manufacturer). In manufacturing, OM also includes decisions on investing in automation and workforce organization, which may appear distinct from SCM that primarily emphasizes procurement and distribution. Therefore, one could contend that OM is the comprehensive discipline aimed at optimizing all productive systems while SCM serves as a specialized sector focused on external flows. This view suggests that SCM is a component of OM managing activities outside the factory while OM addresses both internal processes and their integration.

Rebuttal 1: While it is accurate that operations management encompasses numerous internal factors, the crucial question is whether these can be distinctly separated from supply chain factors. For instance, in the case of hospitals, adopting a supply chain perspective is essential (such as securing critical supplies like medicines, blood, linens, and equipment, and managing patient flow, which parallels workflow management related to inbound supplies and outbound referrals). In manufacturing contexts, decisions concerning automation or capacity significantly affect the supply chain; increased automation may necessitate higher quality consistency from suppliers or alter the break-even point, impacting sourcing strategies. The domain of supply chain management has broadened to encompass not only procurement and logistics but also internal cross-functional collaboration and operational strategy components. Contemporary definitions of SCM explicitly integrate internal operations within its framework (Stevenson, 2021; Chopra & Meindl, 2019). Additionally, processes like Sales & Operations Planning (S&OP) or Integrated Business Planning align internal operational strategies with supply chain partners and financial objectives, highlighting how decisions previously deemed “internal” in OM are now made alongside wider SCM considerations. While OM addresses matters that may initially appear purely internal, a supply chain-oriented perspective incorporates these decisions into its strategic view. For example, while capacity planning falls under OM, supply chain-focused capacity planning takes into account not only internal demand but also supplier capabilities and potential market demand fluctuations (connecting production strategies with upstream and downstream constraints). The engagement of firms in S&OP, which harmonizes marketing, operations, and supply chain strategies, illustrates how past “internal” OM choices are now harmonized with external factors. Therefore, rather than SCM being a narrower branch of OM, it is more accurate to see OM as an integral part of the broader SCM framework. Although the operational processes in hospitals may not involve physical product shipping, supply chain thinking (such as securing critical supplies and managing service partners) still generates significant value. Key principles of flow management and synchronization apply both in service sectors and manufacturing. In essence, internal processes and external flows are interconnected; failing to integrate them can lead to inefficiencies, while their alignment enhances the overall efficiency and effectiveness of the entire system.

Counterargument 2: “Supply chain management is fundamentally a development of logistics and procurement – essential, yet not a part of operations strategy.” Traditionally, numerous operations management (OM) scholars have regarded supply chain management (SCM) as “just a new term for logistics” or primarily related to external procurement and distribution. From this perspective, SCM encompasses activities such as sourcing, transportation, distribution, and possibly inter-company partnership agreements, while the essence of value creation (operations) continues to be the primary function that these activities support. In fact, initial definitions (like those from the Council of Logistics Management in 1985) limited SCM to the oversight of material flow and inventory outside of production. Critics argue that excessive focus on SCM may result in overlooking critical elements of operations strategy, such as process innovation, technology integration, or lean practices, which must be managed internally by operations leaders. They may also observe that in specific corporate frameworks, the Chief Operations Officer (COO) oversees supply chain managers, suggesting that SCM operates as a subsection of the broader operations context. Moreover, some academic programs treat SCM as a specialized subset within OM rather than as a superior field. Consequently, the position is that operations management serves as the overarching discipline for optimizing resources to provide value, while supply chain management is an important component aimed at external coordination.

Rebuttal 2: It’s accurate that supply chain management (SCM) originated from logistics, yet over the past twenty years, it has significantly expanded to encompass strategic, end-to-end integration that often overlaps with traditional operations strategy. SCM now includes decisions that were once firmly within the domain of operations strategy. For instance, determining the number of plants to operate and their locations is both an operations strategy and supply chain design concern. Additionally, the choice between in-house production and outsourcing, a classic operations strategy dilemma, fundamentally influences the supply chain by shaping the supplier network and partnerships. The value chain and SCOR frameworks indicate that sourcing, manufacturing, and delivery are integral components of SCM (APICS, 2017). When companies establish a Chief Supply Chain Officer (CSCO) position, it typically encompasses oversight of manufacturing, procurement, and logistics, signaling that businesses perceive it as a cohesive system. The organizational structure (whether reporting to a COO or CSCO) may differ among firms, but the conceptual overlap remains unchanged. The notion that SCM excludes operations strategy is outdated, as supply chain design inherently involves decisions regarding internal capabilities and processes. While Lean and Six Sigma originated in operations, their application has extended to supply chain partners, such as suppliers implementing Six Sigma under Motorola's guidance. The integration of advanced technologies in operations and a more connected supply chain are occurring simultaneously. An industry commentary stated, "Operations management is embracing smart technologies for enhanced efficiencies, while supply chain management is expanding its scope through improved connectivity, data-driven insights, and global engagement" (Inbound Logistics, 2023). This indicates that neither field is narrower than the other; rather, both have evolved and converged. Given this development, it is more logical to view operations as a subset (specifically, the internal process optimization aspect) of the broader supply chain field, which includes external coordination and strategy. This viewpoint ensures that operations strategy (focused on process enhancement, capacity planning, and technology adoption) is aligned with supply chain strategy (involving outsourcing, network design, and supplier relationships) rather than functioning in isolation. In practice, organizations that thrive are those that integrate these viewpoints, for instance, by designing processes with supply chain considerations and structuring supply chains while considering process capabilities.

Counterargument 3: "Not every organization needs to approach its operations from a supply chain perspective some view operations as the business itself, particularly if they are vertically integrated or small." Another viewpoint highlights that the significance of supply chain management (SCM) fluctuates based on context. A company with high vertical integration that produces most components in-house and sells directly (with few intermediaries) tends to have a simpler supply chain and concentrates primarily on internal processes. Similarly, small businesses and local services usually face minimal supply chain complexities; for instance, a bakery focuses mainly on its baking activities and storefront, sourcing flour and ingredients locally. In such scenarios, prioritizing SCM may offer limited benefits, as operational management (OM) expertise is adequate for running the business. This perspective indicates that the relationship between OM and SCM is context-sensitive, with OM as the essential discipline for those with straightforward external coordination needs. Some scholars worry that the popularity of SCM as a trend has overshadowed traditional OM, but assert that OM remains vital, especially in research and development-heavy or craft-focused enterprises where the management of internal technical processes is key to success.

Rebuttal 3: I understand that the level of intensity required for supply chain management can differ, but even in vertically integrated or small businesses, the tenets of SCM (like systems thinking, flow management, and integration) prove valuable. A vertically integrated company effectively manages an internal supply chain across its various divisions. For instance, if a company controls its sources of raw materials, manufacturing, and distribution, it still needs to oversee the interactions among these in-house units essentially practicing supply chain management within a single entity. Having internal transactions doesn’t eliminate the need for coordination;

it merely shifts from market-based to internal collaboration. Take the example of a local bakery: while it may not require a complex SCM department, it still needs to handle inventory for ingredients (supply) and arrange for catering deliveries (distribution). If that bakery expands into a chain, supply chain challenges, such as sourcing ingredients in larger quantities and distributing to multiple outlets, become important. Adopting a supply chain mindset early can establish good practices (like ensuring dependable ingredient suppliers and preparing for seasonal fluctuations). Fundamentally, the supply chain approach can be tailored to suit any business size it doesn't automatically bring in unwarranted complexity but instead promotes awareness of external dependencies. Concerning academia and the use of "buzzwords": SCM gained traction in the 1990s and 2000s as it addressed shortcomings in traditional OM by focusing on inter-organizational challenges. The contemporary view, reflected in joint OSCM departments, emphasizes the necessity of understanding both internal processes and external collaborations. I am not underestimating OM; in fact, we're enhancing its value by integrating it into the supply chain context, where its impact becomes more pronounced. In cases where supply chain complexity is minimal, adopting an SCM perspective is still beneficial, potentially uncovering cost-saving opportunities (like improved supplier contracts). In more intricate situations, it becomes vital. Therefore, while a small artisan shop may not frequently discuss "SCM," it's crucial to recognize that once operations depend on external inputs or serve external customers, supply chain principles are relevant. Embracing these principles, even in a simplified manner, can enhance performance and resilience (for example, by having alternative suppliers or coordinating effectively with key customers).

Counterargument 4: A key counterargument revolves around academic identity and specialization: operations management encompasses a diverse array of quantitative techniques (optimization, scheduling, queuing theory, etc.) along with qualitative approaches (quality, lean, Six Sigma, etc.). There are concerns that consolidating everything under supply chain management (SCM) could dilute the emphasis on mastering essential OM skills. Students may focus excessively on supplier contracts and network design, neglecting crucial abilities like balancing production lines or calculating economic order quantities, skills vital for various operational positions. Ultimately, the worry is that OM might "lose its essence" if regarded merely as a component of SCM, considering the extensive scope of SCM.

Rebuttal 4: This concern regarding the preservation of specialized expertise is valid, but it does not undermine the connection between OM and SCM; rather, it indicates that as we integrate these fields, we must continue to emphasize OM's distinct knowledge base. Incorporating OM within SCM does not imply that we cease teaching OM techniques; instead, we will teach them alongside supply chain concepts, demonstrating their relevance in a broader context. In fact, this integrated approach can enhance educational outcomes: for instance, discussing inventory control (an OM topic) concurrently with the bullwhip effect (a supply chain issue) equips students with a more comprehensive understanding of how managing variability at a factory can mitigate demand fluctuations upstream. Numerous programs have adopted combined curricula, and their graduates are frequently recognized for being well-rounded professionals. The industry seeks individuals who can streamline assembly lines while effectively negotiating with suppliers, improve quality processes, and grasp distribution constraints. Therefore, framing OM within SCM emphasizes the importance of OM methodologies for achieving supply chain success. An efficient supply chain cannot exist without effective and reliable operations; thus, OM skills are even more vital in a supply chain framework. Conversely, this perspective guarantees that improvements in OM align with adding value for the end customer, avoiding local optimizations that fail to benefit the entire system. The traditional divide between OM and SCM is largely outdated; dismantling these silos fosters professionals who are both technically adept and socially informed. Provided that curricula maintain a robust OM component (which is essential), there is no reason for categorizing OM under SCM to diminish its significance. This is similar to stating that thermodynamics is a part of mechanical engineering such classification does not lessen the importance of thermodynamics but clarifies its role within the larger discipline.

7. IMPLICATIONS

7. 1. Theoretical Implications

Considering operations management (OM) as a component of supply chain management (SCM) promotes comprehensive theories that encompass both internal process efficiency and inter-firm network interactions, rather than isolating internal and external elements. Future theories could enhance operational capabilities into supply chain capabilities by analyzing how internal strengths (such as flexibility or quality) generate value when aligned with the strengths of suppliers and distributors. General Systems Theory serves as a basis for this integration by conceptualizing supply chains as interconnected systems. Some researchers have implemented systems thinking in SCM to manage this complexity. Emerging frameworks are expected to connect traditional OM decisions (like capacity, scheduling, and inventory) with wider supply chain results, reflecting the realities of modern interconnected operations. Scholars should investigate these connections, including the synchronization of internal production and multi-firm planning, the impact of OM practices such as lean and Six Sigma on overall performance, and how operational flexibility strengthens supply chain resilience. Additionally, research can delve into sustainability practices, linking factory waste reduction with supply chain recycling and reuse, alongside how digital Industry 4.0 tools facilitate real-time coordination in networks. Furthermore, analyzing organizations that integrate OM and SCM functions versus those that keep them separate may uncover best practices and essential skills for this unified approach.

7.2. Practical Implications

For practitioners, integrating Operations Management (OM) into Supply Chain Management (SCM) involves breaking down barriers so that production, procurement, and distribution collaborate effectively toward common goals. Companies may consolidate these functions under a single leader (such as a Chief Operations or Supply Chain Officer) or implement cross-functional teams to streamline plans. Performance metrics and incentives should also be realigned to reflect overall effectiveness: a plant manager could be assessed on order fulfillment and inventory turnover, rather than just local efficiency, while a supply chain manager may be evaluated based on production quality, flexibility, and cost, ensuring alignment of objectives across all roles. This integrated strategy reaches out to partners as well, with operations teams working alongside suppliers and distributors through joint forecasting and vendor-managed inventory, viewing external partners as extensions of their internal operations. Strategic decisions take a broader perspective: choices regarding outsourcing or adopting new technologies consider not only costs but also their influence on supply chain agility, resilience, and customer service. Integrated IT systems that enable end-to-end visibility aid this alignment by synchronizing data and operations across the network. Lastly, fostering cross-functional talent (for instance, rotating managers through both production and supply chain roles) promotes an integrated culture. Organizations that harmonize their OM and SCM initiatives can respond more swiftly to disruptions and seize opportunities—adjusting production and sourcing simultaneously—ultimately creating more agile, resilient, and efficient supply networks that enhance customer value.

8. CONCLUSION

This paper argues that Operations Management (OM) is best viewed not as an independent function but as a subset of Supply Chain Management (SCM). Through an analysis of various definitions, theoretical frameworks, and practical examples, I have illustrated the deep interconnection between OM and SCM, with SCM providing a broader framework that encompasses the internal focus of OM. The introduction outlined the ongoing academic discussion regarding whether SCM is part of OM or vice versa, establishing my support for the latter stance. I defined both OM and SCM, highlighting that many SCM definitions explicitly include internal operations as integral to supply chain activities (Chopra & Meindl, 2019; Stevenson, 2021).

In the section on background and definitions, I traced the evolution of both OM and SCM, noting their convergence over time. Initially seen as distinct areas (internal efficiency versus external coordination), they have now come together under a more unified approach: contemporary literature and practice increasingly merge operations and supply chain functions. Stevenson emphasized the inherent interdependence of operational and supply chain functions within organizations (Stevenson, 2021). Mentzer et al. (2001) provided a broad definition of SCM that emphasizes the integration of various business functions, effectively placing OM as one part of a larger system. These references demonstrate that creating a sharp distinction between OM and SCM has become increasingly impractical.

The theoretical underpinning offered substantial support for this argument. General Systems Theory highlighted that a company's operations are part of a larger system of interrelated flows—optimizing a single plant is ineffective without alignment to the supply chain (Helou & Caddy, 2006). Porter’s value chain illustrated that operations are just one of many components in creating value, flanked by logistics (Porter, 1985). Additionally, the APICS SCOR model specifically includes “Make” (operations) as a fundamental element of supply chain management (APICS, 2017). Collectively, these frameworks indicate that internal operations should be understood within the broader chain context.

In the conceptual clarification section, I dissected various frameworks and definitions from prominent scholars. Stevenson (2021) stresses the connections between supply chain topics and operations management. Mentzer et al. (2001) introduced the notion of supply chain orientation, highlighting key processes, such as manufacturing flow management, which demonstrate that operations are part of a larger continuum. Chopra & Meindl (2019) explicitly include operations in their supply chain definition and discuss production planning as integral to SCM. I also noted recent trends toward academic programs that merge OM with SCM, and professional organizations expanding their focus—all supporting my main argument that OM fits within SCM's scope.

I considered counterarguments to provide a balanced view. Some contend that OM encompasses SCM or that excessive focus on SCM could overshadow core OM principles. I acknowledged situations where such distinctions may be less significant (for example, small businesses), as well as concerns about maintaining OM's specialized focus. However, I argued that the modern business landscape increasingly necessitates integration, as supply chains are more interconnected than ever, and even internal decisions can significantly affect external outcomes. Recognizing OM as part of SCM enhances rather than diminishes the relevance of OM tools; it places them in a context where they can have an even greater impact. I emphasized that my argument is particularly relevant in contemporary global supply networks and that careful implementation is essential to avoid potential challenges.

Lastly, I explored the implications of this integrated perspective. Theoretically, embracing this viewpoint can yield richer models that better account for cross-functional and inter-organizational complexities. For researchers, it presents interdisciplinary inquiries that are crucial for industry relevance. In education, it signals the need to train students as systems thinkers who grasp both operational details and supply chain strategies. For professionals, it advocates for organizational cohesion, breaking down silos, and implementing holistic performance metrics—practices that many leading companies are adopting as they recognize the advantages of optimizing the entire supply chain.

In conclusion, the substantial evidence from foundational theories to contemporary industry practices supports the assertion that Operations Management is a subset of Supply Chain Management. While OM remains a vital function, its importance lies within the larger system that creates value for customers. Embracing an “OM within SCM” framework empowers academics to develop stronger theories, helps businesses achieve optimal performance, and better equips the next generation of leaders. In a complex and interconnected business environment, dismantling the artificial barriers between internal operations and external supply chain activities fosters greater efficiency, agility, and competitiveness. Viewing Operations Management as an essential component of Supply Chain Management enriches our understanding of value creation and delivery, enabling us to design and manage systems that enhance customer satisfaction, lower costs, and adapt swiftly to change.

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