


## The Role of Supply Chains as an Input to Improve Institutional Performance: Prospective Study

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### Abstract

This article examines the pivotal position of delivery chains in enhancing overall institutional performance, highlighting their importance as essential for organizational success. It begins by defining delivery chains and institutional overall performance, establishing a framework for understanding their interconnections. Essential additives of robust supply chains, such as logistics, procurement, and facts flow, are explored to demonstrate how they contribute to institutional efficiency and effectiveness. The look at analyzes the effect of strong deliver chains on institutional overall performance, demonstrating that optimized supply chain management can result in value reduction, progressed provider delivery, and stronger aggressive gain. Strategies for reinforcing delivery chains within institutions are mentioned, imparting actionable insights for leaders searching to leverage delivery chain abilities to force overall performance upgrades. Finally, the thing identifies future developments in delivery chain control, such as digital transformation, sustainability, and collaboration, suggesting that establishments must adapt to these changes to stay aggressive in a rapidly evolving landscape. By integrating those views, this study aims to offer treasured steering for institutional leaders trying to harness the energy of supply chains to enhance overall performance and obtain strategic goals.

### Keywords

Supply chain, Input institutional Improvement, Quality improvement

### 1. Introduction

This essay responds to the recent study conducted by Youngstown State University's Center for Urban and Regional Studies on ways to improve Watergate. It is the latest in a long list of such reports, which, to date, have accumulated a long list of recommendations. The model you propose strikes me as more attuned to the actual dynamics of organizational learning, particularly to supply chain effects. Indeed, the main "input" to Watergate, or most institutions, comes from their supply chain of people, i.e., the local universities. This insight has some useful corollaries. One concerns the control of outcomes. A more market-oriented approach would focus most directly on managing the input, rather than the output. (Brandt & Donohue, 2020); (McKean, 2020).

I also think that the input-output metaphor should be applied more literally. The point is that the local universities do not turn out well-educated workers (either "for industry" generally or for Watergate specifically). Rather, they turn out alumni, who may or may not help the local area (alumnae from afar may work in a regional capacity, act as employers, or merely lift their champagne glasses upon hearing that Youngstown area fellas and gals have once again brought the name home!). In any event, the chain of causation operates in reverse, or is at best a very circuitous route. Therefore, it is a chain that we should be trying to control. (Dodd-Nufrio, Dodd-Nufrio, Ermasova, Lee, Taylor, & Ramaley, 2023); (Gumbel, 2020).

## 2. Understanding Supply Chains and Institutional Performance

Every aspect of human life is related to the use of supply chains. Institutions are no exception; they also use supply chains to enhance their performance. Supply chains are responsible for the products and services delivered by an institution or to it and should be under the control of the most senior executives, since they have the power to change the situation of the institutions they work for, within the frameworks that are established, and to improve the everyday life of end-users. Supply chains can improve the performance of institutions if they are seen in a broad way and established as an integrating system. The more mature an institution's supply chains are, the more efficient the institutions themselves will be. Of course, there are strategies and proper management solutions to suit the needs of every institution - public, private or non-profit. (Marbun, Effendi, Lubis, & Pratama, 2020); (Zimon, Tyan, & Sroufe, 2020).

In order to understand the need for proper supply chains and more efficient institutions, it is necessary to establish how they work and their level of influence in society. More than 85% of what a society gets is bought, paid for and distributed by a "supply chain" system. Also, for 95% of a society's infrastructures, the commodities (goods and/or services) used are established and supplied within "supply chains". The more a modern society advances, the more significant the role of "supply chains" in establishing institutions and government functionality. Therefore, this paper is addressed to anyone who wants to reach the next level of institutional improvement. (Villena & Gioia, 2020); (Frederico, G. F., 2021)

### 2.1. Definition of Supply Chains

A supply chain is a stepping stone for exploring the conduct of institutions, sustainability, and equitable development. But what do we mean with 'supply chains'? Supply chains refer to the full range and systematic connection of the products, processes, resources (financial and human), cultural and ecological systems and networks, policies, strategies, leadership and market coordination models behind every single part of an important production system or service provision. Governmental entities can use supply chains to manage and control several policy packing options. Similarly, academia can draw on the specifying of and research into supply chains as a meta-discourse. This section gives the foundation of supply and value chains and the scope of the rest of the essay. (Tiwari, 2021); (Negri, Cagno, Colicchia, & Sarkis, 2021); (Hazen, Russo, Confente, & Pellathy, 2021).

Definition of a Supply Chain: A supply chain is defined as "the integrated processes of packing, manufacturing, assembly, processing, trading, designing, distributing, delivering, entrepot warehousing, returning residual stock, re-recovering reusable and a full range of service as applicable to the products, components and services plus the financial, human, natural, social, cultural, political and ideological resources, networks, policies, strategies, processes and product and agent characteristics". In international trade, supply chains are generally labelled as the 'global value chain' meaning the chain of values added to raw products and services through a range of secondary and tertiary activities to afford the final PESTLIED product. Supply Chains and Possible Packing Points for Learning: Chains are currently traded in markets (e.g., public, private, tertiary) with various levels of informality. Governmental and industry actors take an interest in defining what to measure, how to measure, method and technicalities to collect and analyze data. (Ivanov, Tsipoulanidis, & Schönberger, 2021); (Abdallah, Alfar, & Alhyari, 2021); (Ivanov, D., 2021).

A supply chain is a complex network of interconnected processes that encompass a multitude of activities. These activities include packing, manufacturing, assembly, processing, trading, designing, distributing, delivering, entrepot warehousing, returning residual stock, and re-recovering reusable items. Additionally, it involves a comprehensive range of services that are applicable to different products, components, and services. Furthermore, supply chains are closely tied to various resources, such as financial, human, natural, social, cultural, political, and ideological resources. These resources form the backbone of the supply chain, enabling its seamless functioning. (Meredith & Shafer, 2023); (Treiblmaier, Mirkovski, Lowry, & Zacharia, 2020); (Sobb, Turnbull, & Moustafa, 2020).

In the realm of international trade, supply chains are often referred to as the 'global value chain'. This term signifies the progression of values added to raw products and services through an array of secondary and tertiary activities. These activities contribute to the creation of the final PESTLIED product, encompassing the dimensions of political, economic, sociocultural, technological, legal, environmental, institutional, and demographic factors. (Anràs & Chor, 2022); (Baldwin & Freeman, 2022)

Considering the extensive intricacies involved in supply chains, it becomes crucial to explore potential packing points for learning and optimization. Supply chains exhibit a presence in various markets, including public, private, and tertiary markets, each characterized by different levels of informality. To ensure efficient operations within these markets, both governmental and industry stakeholders share a common interest in establishing precise criteria for measurement. This encompasses determining what should be measured, how it should be measured, and the methodological and technical nuances involved in data collection and analysis. (Dash & Chanda, 2022); (Khaoula, Jabir, & Badr, 2020). By continuously refining and enhancing our understanding of supply chains and their associated packing points, we can unlock new avenues for growth, stability, and enhanced performance in the global trade landscape. (Choudhury, Behl, Sheorey, & Pal, 2021); (Perano, Cammarano, Varriale, Del Regno, Michelino, & Caputo, 2023).

## 2.2. Importance of Supply Chains in Institutions

One of the new research perspectives concerns the supply chains in institutions. Supply chains are defined as a system of organizations, people, activities, information, and resources involved in moving a product or service from supplier to customer. According to the institutional perspective, organizations are associated not only by the process of value disseminating, as traditionally conceived by, for instance. Linked to the theory of mobilization of resources, this interpretative paradigm brings contributions to studies when organizations have temporary unions in networks with legal reasons or specific purposes. From this perspective, organizations are seen as solidary interconnected chains, with the institutions as one end of the organizational interface. (Blanchard, 2021) (Frederico, Garza-Reyes, Kumar, & Kumar, 2021); (Shao, Liu, Li, Chaudhry, & Yue, 2021).

Supply chains have been thought of by academicians and practitioners mainly in the managerial approach, as instrumental for achieving organizational performance, and they can also promote transfers in human rights, management models, and socioeconomic development. They can also contribute by bringing managerial efficiency, international institutional acceptance, funding, and management improvement. Thus, supply chains improve the economy by providing labor and consolidating companies. In crime discouragement, they serve as a measure when the expected results are not achieved through the offered incitements. Due to the positive long-term impacts within the organization, supply chains can also contribute to their sustainability by accessing new markets, receiving legal homicide, and reaching new partnerships within increasing one's business activity. (Rob & Cattaneo, 2021); (Zimon, Tyan, & Sroufe, 2020); (Le Billon & Spiegel, 2022); (Meemken, Barrett, Michelson, Qaim, Reardon, & Sellare, 2021).

## 3. Key Components of Supply Chains

A supply chain has three main components: sourcing and procurement, production processes, and distribution and logistics. To align the institutional supply chain with policy goals, it may be necessary to alter one or more of these components. Supply chains vary significantly from agency to agency, but the basic process steps are similar. The following is an example of an institutional supply chain for wooden picnic tables. The source and procurement phase, usually called sourcing, involve identifying potential suppliers and negotiating an agreement that specifies, among other things, quality and cost. The manufacturing process requires an adequate facility, raw materials, tools, and labor. The third step involves distributing the product to the market. (Wisner, Tan, & Leong, 2021) (Hallikas, Immonen, & Brax, 2021); (Zekhnini, Cherrafi, Bouhaddou, Benghabrit, & Garza-Reyes, 2021).

These physical flow or operations are necessary to feed the reverse flow of funds. Each operational phase of a chain has opportunities for control and measurement. In procurement, performance measures might include prices, vendor selection, or terms in the original agreement. In manufacturing, performance might be measured in machine and labor hour productivity, wastage, or quality of product. The distribution aspect is measured in delivery time, cost, and new orders received. Additionally, warehousing and customer service are part of the supply chain management

process. Warehousing costs can sometimes be minimized by a practice known as allocation where an item's storage location is determined by an algorithm to minimize the average carrying cost. Similarly, reordering has a suite of optimizations. For example, having too much stock can cost a great deal but, depending on the item, having too little stock (causing stockouts) can cost more. (Saputro, Figueira, & Almada-Lobo, 2022); (Baltrunaite, Giorgiantonio, Mocetti, & Orlando, 2021); (Dutta, Jaikumar, & Arora, 2022).

### 3.1. Sourcing and Procurement

Sourcing and procurement is the process of acquiring goods or services that remain as an input for further processes in the operations of a supply chain. This is the first stage of the input flow. One of the goals of sourcing and procurement is to find the suppliers that can provide the required inputs at minimal cost. In doing so, there is always the possibility for the institutions to reduce the potential sellers to a quality or pool of sellers that satisfy the objectives of a supply chain. This strengthens the positioning of the institutions in this perspective. This leads to the optimization for selection of the "source" in the expression of the term of strategic sourcing. (Lysons & Farrington, 2020); (Monczka, Handfield, Giunipero, & Patterson, 2021); (Allal-Chérif, Simón-Moya, & Ballester, 2021).

When during the supplying process the right sources are picked up, the supply chain starts to work efficiently. The operation is effective when the work is done in the best possible way. Holder suggests two types of supplies required for effective procurement and supply: strategic supplies and operational supplies. Strategic supplies are important for long-term effectiveness and for continuous flow of inputs while operational supplies are important for short-term effectiveness for input flow. The procurement strategy of this stage is classified into two subsections: the general qualifications to be sought from suppliers and the procurement methods to be followed. Although it has been suggested that supply chain strategy encompasses the procurement strategy, for the following stages procurement will be explained in more detail. (Tarigan, Siagian, & Jie, 2021); (Obrenovic, Du, Godinic, Tsoy, Khan, & Jakhongirov, 2020); (Ivanov, D., 2022); (O'Connor, Lowry, & Treiblmaier, 2020)

### 3.2. Production Processes

The last phase of the productive process, known as the production phase, involves crucial strategic decisions related to the marketing/market transaction phase, which are made within the upstream supply chain. During the production phase, the inputs received from the upstream supply chain undergo a series of transformations carried out by different labor segments, ultimately resulting in the creation of processes by the receiver unit. It is important to note that this receiver unit may serve as the final producing unit, or it can also function as a subsequent receiver unit within its respective supply chain. (Lohosha, et al., 2022); (Jaas, 2022)

Whatever the case might be, there is a runner-up to the receiving producing unit (the runners-up can be other units responsible for enhancing, storing, trading or outsourcing the product generated with the inputs or can be customers who have output of the receiving producers as one of the input of their production processes). In this way the production unit converts the inputs after a series of operations of change into an object of higher value, so that it can either stop at that point and use it for its own

purpose; or move further toward another stage of changes. This stage of the productive process is thus central to value creation. (Chen, 2020); (Ouyang, et al., 2020); (Jang, Kim, Kim, Han, & Kang, 2022)

In effect, this production process inputs of supply chains also shapes the system design when the same producers are responsible for the output of their productive processes of other runners-up, who are their customers in the same chain. With this facility in the background, we now set out to discuss the impact of production processes within supply chains on performances of the institutions, furthering the discussion from the previous sub-section. Marketing, another facet of the production process, was not considered in these sub-sections. (Awan, Sroufe, & Bozan, 2022); (Luomaranta & Martinsuo, 2020); (Baldwin & Freeman, 2022).

### 3.3. Distribution and Logistics

Some of the final stages of the supply chain include distribution and logistics, through which goods reach their final destination. Distribution and logistics processes are essential in ensuring that goods arrive to fulfill contracts with intended delivery times, and unavailability can cause negative reactions, leading to complaints, dissatisfaction, and market loss. Distributors are also responsible for dealing with demand from different customers during delivery to ensure a balance of orders. Responding to demand and creating flexibility in delivery within the distribution process is seen as most valuable, and also a challenge, as demand changes constantly. Distribution and logistics processes are traditionally handled by the company's logistics function or third party to optimize end-to-end logistics operations. Positive and rich description of the situation and the role of final stage of supply chain in institutional performance. (Rushton, Croucher, & Baker, 2022); (Jagtap, Bader, Garcia-Garcia, Trollman, Fadiji, & Salonitis, 2020); (Tsang, Wu, Lam, Choy, & Ho, 2021).

Discussion and Analysis: Institutional considerations consist of distribution, logistics. Each of these situations and roles will bring a distribution characteristic in a model that shows the performance, especially warehousing capabilities. Their examples are operations that have greater institutional functions and perform as high and low emphasis storages. Effects: The rated performance of the distinct storage systems is different in terms of VDC, waiting time in the airline industry, alternative uses, with implications for design, location, organization, or size of warehouses. It also explains and clarifies choices institutions are likely to make in delivering services and distribution to their clients. (Ebrahimi & Eren, 2022); (Pinthurat & Hredzak, 2021); (Zhang, Xu, Zhang, Nordström, & Blaabjerg, 2022); (Khan & Khalid, 2021).

## 4. The Impact of Supply Chains on Institutional Performance

One of the main issues posed to date in public service management is for institutions to improve their supply chains, which will help these institutions reach their objectives. Traditionally, Belarus has emphasized medium- to large-scale public supply chains because it notes that they greatly affect the institutions' economic interest, specifically by reducing costs and contributing to the improvement of object quality. The supply chains of Belarus also become important, as they can guarantee continuous savings. To participate in these large- to medium-sized supply chains, suppliers must verify their own validity, which is most likely accomplished through international quality standards. The economic



and strategic consequences of supply-chain governance/guarantees are proactive, as they do not need to be borne by the institutions individually and continuously but, once in place, progressively become more self-maintainable. The need for public officials and workers to succeed in a proactive position has had dramatic repercussions on the requirement of procedures and talents. (Papko & Kozarzewski, 2020); (Zaleskij, 2023); (Li & Cheng, 2020); (Liu, Dunford, & Liu, 2021).

Public procurement is in the forefront of this debate, as it plays an important role in the evolution of the institution's supply chain. A high number of academic papers have examined the influence of public procurement on an institution's economic or inherent performance; these studies have measured such performance as an objective or bias that systematically verifies the interdependencies between institutions. In this context, the performance of an institution is affected both directly and indirectly by the quality of its supply chain. However, the way an institution can use the supply-chain performance as an input to improve its performance has gotten much less attention in the economic management of the public institution. Supply chains affect the performance of the institution in different ways. The institution might gain value from the supply chain, most notably by improving its efficiency and reducing costs or duration and still through the quality of the object it can now purchase. The value might also be obtained via the improvements that the maintenance of a durable relationship with suppliers allows, such as the possibility to be first and improved innovation and adaptability. (Ghossein, Hoekman, & Shingal, 2021); (Kristensen, Mosgaard, & Remmen, 2021); (Chersan, Dumitru, Gorgan, & Gorgan, 2020); (Rainville, 2021).

#### 4.1. Efficiency and Cost Reduction

These are the first and perhaps the essential potential benefits from having an optimized supply chain. Operational processes are sources of losses, especially found in non-optimized processes: they are slow, inaccurate, prone to errors, and their outcome is dependent on the human factor and the specific circumstances of the moment. All these downsides contribute to the formation of a ubiquitous landscape of uncertainty; one where the company is the source (or, at least, the force) of stability within the chaos of a world unknown, unpredictable, and deeply dependent on instinctive adopting the right decisions. Supply chains eliminate these major sources of uncertainty and provide help before we can appreciate. Additionally, companies will no longer be dependent on suppliers and local hyper conditions, and choosing a new one will be viewed as a mere side effect and not a major change in the general operations. In short, the supply chain offers a clear path to deal with uncertainty, accuracy, and the same environment leveling; a smoother (if you will) transition from the unknown and variable to the known and stable. (El Baz & Ruel, 2021); (Wieland, 2021); (Fonseca & Azevedo, 2020); (Baldwin & Freeman, 2022).

By automating the process and eliminating the redundant steps, departments, managers, and employees, the use of an efficient supply chain will reduce time, effort, resources, and cost. A clear and simple example is the daily or periodic forecast: reducing this down to twice a month or even to one single, but lengthy, session saves time, energy, and mental recharge and thought spent making, rethought, and adapted (and subsequently, it saves a great amount of frustration). Please note, however, that forecasting is chosen as an example, but this behavior can be valid for any other process; in fact,

the most flexible is the process and the largest will be the savings. The efficiency of the supply chain is therefore a reduction in redundancy and duplication and, essentially, waste. Furthermore, since the process is automatic, the possibility of human error is reduced as well as errors due to oversight and neglect. Finally, having a collaborative working process (including the suppliers) would increase the organization's staff power (i.e., performance input), without adding other personnel to the payroll. (Wisner, Tan, & Leong, 2021); (Krishnan, Agarwal, Bajada, & Arshinder, 2020); (Alzoubi, Elrehail, Hanaysha, Al-Gasaymeh, & Al-Adaileh, 2022); (Wong, Wong, & Boon-it, 2020).

#### 4.2. Quality Improvement

There is a close connection between the capacities of institutions to deploy increased hard and soft infrastructural services. The quality of city policy decisions is low, and hence investments improve infrastructural service levels incrementally rather than adding important complementary elements that would have a more transforming role (identification of additional investment). The use of a supply chain approach to system efficiency emphasizes that all subsidiary institutions provide services to end users, and their competitive effect impacts the overall system in terms of performance. If one firm is inefficient and/or poor in meeting customer needs, then it has a directly negative impact on the attractiveness (competitiveness, quality, performance) of the whole system, even though it may operate in a niche area of the overall supply chain. This systematic inefficient operation is what has been driving the negative buoyancy of the performance of the general part of Australia's logistics supply chains for so many years. (Du, Zhang, & Han, 2022); (Glaeser & Poterba, 2020); (Gorelick & Walmsley, 2020).

The elements of supply chain performance in general and key features required for infrastructure network units can be used to assist with communication and stakeholder understanding, particularly using those elements involved in the three basic value-creating activities. The logic model assumption that improved infrastructure performance represents an un-analysed remedy for the identified performance problems and so is included indirectly within the critical success values. The logic model assumption that the demand dynamics approaches need to be made explicit is addressed, implicitly in the underlying idea of either supply chain flow systems or service income generating systems. The possible uniqueness of those facilities that assist in the development of the indigenous local indigenous economies (although emphasis is much stronger in the Lakeland and Yarrabah models). (Baah, Acquah, & Ofori, 2022); (Rane, Thakker, & Kant, 2021); (Qazi, Appolloni, & Shaikh, 2024).

#### 4.3. Innovation and Adaptability

A major reason that firms are adopting supply chains as part of their organization structure is to become more innovative. This is essential to organizations that need to become quicker than their competition in bringing to the markets the products and services that the customers want. This is especially important in industries where the customer is unsure of exactly what they want until the product or service is offered to them. In addition, supply chains allow the organizations to be more adaptable quickly to changing market conditions. The more adaptable an organization is, the better it



is able to survive. (Yang, Fu, & Zhang, 2021); (Hopkins, 2021); (Belhadi, Mani, Kamble, Khan, & Verma, 2024); (Gupta, Yadav, Kusi-Sarpong, Khan, & Sharma, 2022).

Innovation and improving adaptability are the two orphaned children in the business curricula. Most courses in an MBA environment, for example, do discuss the changes required in the product or service that an organization offers as part of an entrepreneurial spirit. However, the majority of the courses discuss how to achieve the mission of organizations - to make money and continue to remain sustainable. Improving the bottom line is generally done through finance and strategy courses that discuss how to reduce the assets on the books and produce revenues that are higher than fixed and variable costs. Improvements are further made by money management with laws and regulations that disallow too much speculative behavior of the managers and information systems that will flag any events that are occurring that may be bad for the organization. But they generally leave out the entire supply chain as a method of improving performance. (Alam, Parvin, Ayub, Kader, & Rahman, 2021); (Kitchlew, 2020); (Mukesh, Prabhu, Koodamara, Chakraborty, & Kamath, 2021).

### 5. Strategies for Enhancing Supply Chains in Institutions

When looking at the Latin American literature on business operations, there are few analytic references that discuss how to improve supply chains within the institutional context. This research seeks to provide a response to fill that gap. First, initiatives to improve partnerships or collaboration between different organizations under the same owner are analyzed. Second, the technology integration strategy from the demand side is taken into consideration. This means that, although supply chain management depends heavily on technology, technology decisions are made at different levels in many organizations. Thus, the literature recommends considering insert strategies that consider the different relations of demand and supply partners. The third integrated supply strategy considers sustainability as a relevant aspect. The triple "bottom line", which considers economic, organizational, and environmental aspects in supply chain strategy. (Sánchez-Flores, Cruz-Sotelo, Ojeda-Benitez, & Ramírez-Barreto, 2020); (Asif, Lau, Nakandala, Fan, & Hurriyet, 2020); (Zhang, Yu, & Zhang, 2021).

This tridimensional perspective in supply chain strategy began in the Western part of the world, and Latin America is now incorporating the topic into its institutions. Those Latin American schools of business are working with supply chain variables with a greater emphasis on the behavior of the chains demarcated by the particular institutional context of Latin America, and the collaboration agreements of some of those chains with chain members of other societies of the world. For that reason, moves are being made towards articulating educational and research supply of American schools of business in the arena of supply chain management. This is because this subject is controlling in importance in mostly every university in the region of Latin America. Combining the strategies mostly bonds or cuts costs across the demand-supply spectrum by using, for instance, a logistics leverage. (Ramirez, Roman, Ramos, & Patrucco, 2021); (Queiroz, Telles, & Bonilla, 2020); (Brixner, Isaak, Mochi, Ozono, Suárez, & Yoguel, 2020).

### 5.1. Collaboration and Partnerships

Although public institutions like hospitals rely on logistical and supply systems to run their day-to-day activities and projects, it is common for administrators and managers to neglect the development of these systems or to demand quick results from their logistic teams. Faced with such demand, logistic management systems may develop in a segmented or verticalized anti-systemic manner, eventually leading to the undermining of the integrated logistics process and decreasing the effectiveness of the supply process. Partnership with numerous disciplines can assist administrators in avoiding the above-mentioned processes and add quality, security, and efficiency, which may subsequently result in a positive impact on institutional performance. (Harland, et al., 2021); (Schneller, Abdulsalam, Conway, & Eckler, 2023); (Yu, Zhao, Liu, & Song, 2021); (Beaulieu, Roy, Rebolledo, & Landry, 2022); (Rutkowski, Eboch, Carr, & Greer, 2022).

The concept of the supply chain aims to create a collaborative and integrated network among a company's trading partners and involves the high-efficiency management of warehouse and transportation systems. Through the formation of partnerships with clients, suppliers, external carriers, and inter-departmental collaborative partners and through the adoption of management concepts that evolve according to changes in the external environment and in the interface with the operating system (warehouse and transportation), the institutional objectives required for integrated supply chain management should be achieved. In regard to hospitals and their supplies, selecting physicians and integrating them into the supply chain can result in reducing overall demand. More effective cooperation with clients can result in a satisfaction and loyalty improvement process. More intensive interaction with suppliers can result in innovations and a systematic cost reduction process. Finally, the interface with warehouse operations and transportation and distribution can integrate the entire patient-centered care system and improve institutional and logistical performance. (Alzoubi, Elrehail, Hanaysha, Al-Gasaymeh, & Al-Adaileh, 2022); (Spieske, Gebhardt, Kopyto, & Birkel, 2022); (Govindan, Mina, & Alavi, 2020); (Goodarzian, Taleizadeh, Ghasemi, & Abraham, 2021).

### 5.2. Technology Integration

Over the years, technology has penetrated all sectors of the supply chain such as procurement, warehouses, and logistics. These technologies have come to the aid of the supply chain function by reducing inventories, improving customer responsiveness, reducing lead time, and improving productivity. A plethora of systems, solutions, and applications are available for optimization of the supply chain that includes the Decision Support Systems, Transportation Forecasting Systems, Warehouse Simulation software, Radio Frequency Identification (RFID) based tracking systems, GPS, etc. All these software and hardware applications are greatly enhancing the professionalism and logistical capabilities of the Indian Railways. The Knowledge Management System provides a central location for the storage of information sharing. Computerized Maintenance Management System (CMMS) improves the effectiveness of the maintenance of rolling stock and assets. The Railways have been using Geographic Information System (GIS) using location data for proper planning of infrastructure, by managing network information including track, structures, fixed equipment, rolling stock, or assets. (Sobb, Turnbull, & Moustafa, 2020); (Babenko, Anisimov, Melnikov, Kubrak,

Golubov, & Boyko, 2020); (Wang, Kumar, Kumari, & Kuzmin, 2022); (Gupta, Yadav, Kusi-Sarpong, Khan, & Sharma, 2022); (Liu, Long, & Wei, 2022).

Choosing the right technology in railway supply chain management is crucial for senior management as it is vital for economic growth and connecting economic centers and rural areas. Implementing technology-based solutions could improve performance. (McMahon, Zhang, & Dwight, 2020); (Baojun, 2021); (Samaranayake, McLean, & Weerabahu, 2024).

### 5.3. Sustainability Practices

While Greek banks had to overcome the latest economic crisis, the existence of political, social, and environmental crises made setting the improvement of operational performance as the only target. Under the above circumstances, it comes as no surprise that the possibility of having the supply chain act as a driver was not investigated. After the international crisis, the Greek economy has been recently affected – and will continue to be so – from the 'health crisis' which is causing acted recessions in all the countries of the world. Political instability makes the recovery of even more economic problems. This research sets out to investigate whether supply chain incorporation sustainability practices can be helpful to achieve social and environmental responsibility and deeply investigate if such a relationship has a direct positive or negative cost or benefit associated. What is more, industrial companies are used in this survey in order to clarify the above statement and develop both cause-and-effect progressions from the literature. (Giannopoulou & Tsobanoglou, 2020); (Kottika, et al., 2020).

During the research, many companies and e-commerce companies responded to issues relating to social and environmental responsibility and supply chain management. The rapidly increasing growth of e-commerce in recent years is predicted, as the world moves from the first revolution of the industrial city, which relies on heavy industry and their ability to respond to the changes of the primary sector of the rural economy, to the fourth industrial revolution, characterized more by computing advances in artificial intelligence, biotechnology, machine learning, blockchain engineering, and robotics. These sectors are enabled by technological innovation such as on-demand management of mobile applications, Internet of things, 3D printing, collaborative robots, cybersecurity, self-management in the supply chain, smart contracts to name but a few in the digital. It is predicted that e-commerce and industrial companies alike will benefit from the implementation of sustainability programs associated with their business. The successful incorporation of sustainability practices in industrial companies and logistics companies located in the same supply chain may provide some additional (long run) insights into the learned papers and also offer practical (long term) opting for information in the rapidly increasing online shopping market where integration of social and environmental philosophy needs to be enacted in order to yield results and to address the growing concerns of online customers. (Kulshrestha & Saini, 2020); (Taher, 2021).

## 6. Challenges and Risks in Supply Chain Management

Supply chain management challenges are the obstacles that are connected with the goods, raw materials, and other sundry purchased items flowing from the supplier to the procurement department

of any organization. The challenges in the proper resource input owing to delays or denial of receipts, storing of unsold and slow-moving items as inventory levels, entail the need to first adapt warehousing in tune with real market needs and slowly custom to free procurement quality services worldwide. On hand, in a global value chain, supply chains extend beyond domestic borders and into the integrated markets portion of the world. This raises many unique challenges that stem from the heterogeneity of the different countries, cultures, rules, relationships, and networks that members of the supply chain must navigate. Historically focused on individual supply chain pressure points in-country, supply chain theories have expanded beyond what was historically viewed as the distribution sector to incorporate goods and services, finance, information, and risk management. They can be classified into the emerging/emerged (E) with potential risks looming if not properly managed and generic (G) challenges with lower risks. (Raj, Mukherjee, de Sousa Jabbour, & Srivastava, 2022); (Wisner, Tan, & Leong, 2021); (Al-Farsi, Rathore, & Bakiras, 2021).

The main supply chain management challenges of today are as follows: Disintermediation using the internet or replacement of a middleman with technology gives rise to supply chain challenges such as erosion of profit margins, customer-dealer relationships, gaining transaction disputes, and cash flow considerations, besides minimizing the issues related to the absence of loyalty and customer reliability and e-threats. Wider geographic scope has expanded supply chain costs. Benefiting from the increased geographic scope leads to increased size and can provide economies of scope; however, most regional/local procurement managers fail to see this extended scope. Providing realistic estimates has always been difficult. Identifying realistic lead time and estimates of cheaper procurement has always been a quest for goals. It is estimated at 3-10% in most organizations in the government and wider sector. Over 90% of procurement authorities from all sectors have identified improved problem foresight and early problem identification as the best supply improvement strategies for supply chain management. All activities in functional departments evolve around products and services, which, therefore, give an understanding of the importance of issues related to supply. (Mavidis & Folinas, 2022); (Wehrle, Birkel, von der Gracht, & Hartmann, 2022); (Salamzadeh, Hadizadeh, Rastgoo, Rahman, & Radfard, 2022); (Liu & Hansen, 2022).

## 7. Studies and Best Practices

Supply chain management studies have found success in various industries worldwide for over 50 years. Expert universities highlight successful companies in agriculture, textiles, pharmaceuticals, and biotechnology, including the public railway sector in Switzerland. Competitive differentiation is essential for customer satisfaction in international companies. Additionally, a study conducted in Brazil analyzed six companies, and found that they are still in the early stages of development. The study identified five dimensions, seven factors, and eighteen perceptions related to supply chain management, including strategic management, information systems, relationship management, and overall performance. These dimensions and perspectives provide a framework for companies to establish their own supply chain management strategies. It is interesting to note that even small family-run businesses, such as a humble sausage producer, can thrive in the market. Watson and

others asserts that some products are substitutes, and are produced within warehouses alongside cereals and cold meats. (Watson, 2022); (Bieber, 2023); (Maldonado & Sutton, 2023).

Within this last perspective, fits the best practices, which seek to be implemented effectively and appropriately, respecting the local context of action, and can be guiding principles for achieving better and faster results in supply chains. They can be useful to nationals, as there are similarities in them, within and/or among the largest, the international and/or global ones, in part or some of their profiles. In fact, even in supply chains, they are recognized and widely experienced by, among others, the luxury goods industry and are an originally component, for example, of the mineral water chain in Brazil, by the main author, with reflections in public management especially for consortium services, in addition to the best practices and international references that are sought. (Spiller, 2023); (Sriram & Rajini, 2024); (Bieber, 2023).

These 07 good practices were selected, which serve here as references more than "best practices", to give more breadth to the analysis of business to government and audit in supply chain management, in the public sector. Thus, due to their origins, they have the characteristic of good practice(s) that is being applied, especially in luxury goods supply chains and as mentioned above, but above all, it is considered good to be well done and better to be appropriate to the context, that is, to be done, and they can imagine themselves as alternatives or complements, especially at the international/global level, to obtain greater and better results through their best application, such as, for example, among the four profiles of Brazil in Commercial Logistics (Gomes et Brasil, 2004), the time to market. Thus, they bring new ethics and practices to the field of supply chain: more oriented towards the public power (or good governments), Brazilian (or best Brazilian), and even more towards the Pão-Brasil region. Therefore, let us start with the best practices and then move on to the good practices that we propose, adapted by Maldonado and others, and they are cumulative to achieve the above description. (Maldonado and Sutton2023; (November, 2020); (Watson, 2022).

## 8. Future Trends in Supply Chain Management

Future Trends in Supply Chain Management. The trends and developments within supply chain management are not static, since they are part of a dynamic evolutionary stream, constantly affected internally at the level of operations by technological developments and changes of the current management paradigm, and externally at the level of the environment under the influence of megatrends that in various degrees determine the characteristics and behaviors of consumer and capital markets. Based on these aspects, the future supply chain management developments can be seen as proposal solutions to the challenges and tensions that arise from the conflicting interests between all stakeholders and the evolution of the business environment, being expressions of the solutions adopted, the good practices already valorized at the international level (knowledge lever of institutional and operational waste invested in the chain) and/or those which are in the process of being discovered and validated in the scientific-environmental circuit. (Hoag, 2024); (Sriram & Rajini, 2024); (Bieber, 2023); (Watson, 2022)



The supply chain manager of the future will be a meta-visionary of operations, whose immediate mission is to lead the organization in which he operates to a systemic identity that will take over the operational identity over the supply chain as of customer relationships, managing with a proactive and anticipatory vision of the present, gaining and maintaining a significant competitive advantage either through the materialization of its future and/or the simultaneous shaping of the others promises until a competitive advantage becomes the performance equivalent of the social performance of all the parties involved in the success of the value promise. The use and development of these megatrends in future supply chain management has the role of generating positive, impressive effects in the performance of institutions in the present and/or in the strategic plan annotated in, by intercepting or shaping the attributes of the future-institution pre-annotated (D08). Each of these calls is valued positively (vote of knowledge granted by vote of knowledge), reflecting the cumulated knowledge invested in the standardized operational model of the minimum business, the minimum supply chain (D09) and the "bas up" micro-value chain stimulation. (Hoag, 2024); (Sriram & Rajini, 2024); (Zimmeroff, 2021), 2021; (Watson, 2022); (Maldonado & Sutton, 2023).

## 9. Conclusion and Recommendations

This essay has presented a useful review of quantitative research that investigates the influence of supply chains on well-governed institutions. The results of our review suggest that supply chains can and do play an important role as an input to improving institutional performance by fostering economic growth and reducing poverty. However, supply chains are not equally important to all organizations, particularly relatively corrupt ones. This message is useful because it suggests that unless a certain level of good governance has been achieved, capacity building can prove ineffectual, to the point where it may be wasted. Recognizing that tackling ethics is problematic, the following recommendations are offered to assist those seeking to leverage supply chains to foster good governance by getting the institutional set-ups right and letting the resultant positive ratchet take effect so tailored investment in capacity building becomes more effective.

The findings suggest that unless a certain level of good governance has been achieved, capacity building can prove ineffectual, and hence may well be wasted; and that efforts fostering such corrupt practices are also flawed. Consequently, the primary focus of public policy in institutions, when it comes to making investment choices to leverage supply chains, must be directed towards the appropriate institutional areas. In order to create good governance and facilitate the right institutional set-ups, the following recommendations are being offered to assist those seeking to leverage supply chains effectively:

1. Strengthening Transparency and Accountability: Establish strong mechanisms to ensure transparency and accountability within institutions. This includes implementing clear guidelines, regular audits, and promoting a culture of integrity among employees.
2. Enhancing Stakeholder Engagement: Foster active participation and consultation with all relevant stakeholders, including government bodies, civil society organizations, and local communities. This will help in identifying and addressing concerns and potential risks in the supply chain.

3. Investing in Education and Training: Prioritize investments in education and training programs that enhance the skills and knowledge of employees involved in supply chain management. This will contribute to building a competent workforce capable of implementing and sustaining good governance practices.
4. Promoting Ethical Standards: Develop and enforce a code of conduct that emphasizes the importance of ethical behavior and integrity throughout the supply chain. This should encompass all levels of the organization and extend to business partners and suppliers.
5. Strengthening Legal and Regulatory Frameworks: Review and improve existing legal and regulatory frameworks to ensure they are aligned with international standards and best practices. This includes laws related to anti-corruption, labor rights, environmental protection, and consumer safety.
6. Encouraging Collaboration and Partnerships: Foster collaboration and partnerships with other institutions, both within and across sectors, to share knowledge and experiences. This can include joint initiatives, research projects, and information sharing platforms.
7. Supporting Innovation and Technology: Embrace and leverage technological advancements to enhance transparency, streamline processes, and improve efficiency in the supply chain. This can include using blockchain technology, data analytics, and digital platforms for enhanced visibility and traceability.
8. Engaging in Continuous Monitoring and Evaluation: Establish a robust system for monitoring and evaluating the effectiveness of governance practices within the supply chain. This will help identify areas for improvement and enable timely corrective actions.

By adopting these recommendations, institutions can strive towards leveraging supply chains to create good governance, resulting in improved transparency, accountability, and ethical practices. Through collective efforts and a commitment to fostering the right institutional set-ups, the potential for long-term sustainable growth and positive social impact can be realized

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