

## **Theoretical framework for the control and guidance of hospital logistics performance management during covid pandemic 19**

### **Cadres théoriques d'inspiration de recherches en contrôle de gestion et pilotage de la performance logistique hospitalière à l'ère de la pandémie Covid 19**

**MILOU Karim**

PhD student in Management science  
Faculty of Legal, Economic and Social Sciences  
Sidi Mohammed Ben Abdellah University, Fez  
Studies and Research Laboratory in Management of Organizations and Territories  
Morocco  
[karim.milou@usmba.ac.ma](mailto:karim.milou@usmba.ac.ma)

**TOUATE Samira**

Professor HDR  
Faculty of Legal, Economic and Social Sciences  
Sidi Mohammed Ben Abdellah University, Fez  
Studies and Research Laboratory in Management of Organizations and Territories  
Morocco  
[Samira.touate@usmba.ac.ma](mailto:Samira.touate@usmba.ac.ma)

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## Abstract

The purpose of this paper is to try, through a theoretical study, to highlight the main theoretical frameworks of inspiration of the research in management control and the piloting of the hospital logistics performance in the era of the current context characterized by the economic and financial repercussions of the Covid 19 pandemic, and the great tendency of the hospital establishments towards the adoption and the integration of the tools of management control as an inescapable means of piloting the hospital logistics performance. The literature shows a diversity of approaches and currents in logistics performance control. Thus, the expected results stipulate that a great deal of research in management control and hospital logistics performance refers to the resource theory, the stakeholder theory, the network theory, the contingency theory, the systemic approach, Simons' theory and the neo-institutional theory. These theories are fundamental references for understanding the determinants, evolutions and even reconfigurations of management control tools within the hospital supply chain. The results of our study confirmed the contributions of the theory of resources, stakeholders and networks to the adoption and consideration of dimensions other than financial and economic performance by healthcare institutions.

**Keywords:** Management Control; Hospital Establishments; Stakeholder Theory; Contingency Theory; Logistics Performance.

## Résumé

L'objectif du présent article est d'essayer, à travers une étude théorique, de mettre en évidence les principaux cadres théoriques d'inspiration des recherches en contrôle de gestion et le pilotage de la performance logistique hospitalière à l'ère du contexte actuel caractérisé par les retombées économiques et financières de la pandémie Covid 19, et la grande tendance des établissements hospitaliers vers l'adoption et l'intégration des outils de contrôle de gestion comme moyen incontournable de pilotage de la performance logistique hospitalière. Il ressort de la littérature une diversité d'approches et des courants de contrôle de la performance logistique. Ainsi, les résultats escomptés stipulent qu'un grand nombre de recherches en contrôle de gestion et la performance logistique hospitalière se réfère à la théorie des ressources, la théorie des parties prenantes, la théorie des réseaux, la théorie de la contingence, l'approche systémique, la théorie de Simons et la théorie néo-institutionnelle. Ces théories constituent des références fondamentales pour comprendre les déterminants, les évolutions voire les reconfigurations des outils de contrôle de gestion au sein de la chaîne logistique hospitalière. Les résultats de notre étude ont permis la confirmation des apports de la théorie des ressources, des parties prenantes et des réseaux de l'adoption et la prise en compte des dimensions autres que financières et économiques de la performance par les établissements de soins.

**Mots clés :** Contrôle De Gestion ; Etablissements Hospitaliers ; Théorie Des Parties Prenantes ; Théorie De La Contingence ; Performance Logistique.

## Introduction

The Hospital management has undergone profound changes over the last decade, especially after the introduction of new managerial practices in terms of organizational management, but also the use of new information and communication technologies, whose main objective is the search for performance. Among the functions affected by these changes is the logistics function, which is of primary importance in hospital structures, and which encompasses a set of coordinated and complementary activities whose sequence generates financial, material and information flows. On the other hand, management control as a performance management and decision support tool contributes perfectly through its tools: budgets, dashboards and reporting to the evaluation of the performance of the hospital supply chain (Serrou, 2017).

Following these considerations, the objective of our article is to draw up through a literature review the theoretical sources relating to the management control function mobilized in order to evaluate the performance of the hospital supply chain and to identify areas for improvement, but also the shortcomings of dysfunction. This leads to the following question: *What are the theoretical contributions mobilized in management control research and the management of hospital logistics performance?*

To answer this problematic question, our research work will be structured in two axes: the first one is devoted to make a review of the writings of all the theories and tools of management control and to the study of the logistic performance in the hospital sector, while the second axis will approach the theoretical links between management control and the hospital logistic performance.

### 1. THE THEORETICAL FRAMEWORK

#### 1.1 Theories used in management control to manage logistics performance

This axis brings together all the management control theories used to achieve logistics performance.

##### 1.1.1 Stakeholder theory

The Stakeholder theory, first developed by Ansoff (1968), is based on a participatory approach in which all the stakeholders of the organization cooperate in the creation of value, it is a mode of governance that takes into consideration all the specific interests of the internal and external actors of the company including: managers, employees, customers, suppliers and the state. In our case, this obviously includes hospital directors, doctors, nurses, administrative staff,

patients and suppliers, trade unions and associations, all of whom contribute jointly to the achievement of the hospital's strategic objectives. Thus, co-operation and co-ordination are considered key success factors of any value chain according to Porter in order to gain the competitive advantage that is essential for any organization to cope with the fierce competition for the availability of drugs and medical devices during this period of crisis (Porter, 1986). Moreover, suppliers play an important role in the supply chain and they are integrated in the Just system through the supply of raw materials but also the quality of the products supplied, whose objective is patient satisfaction (Lakhlifi, 2021).

### **1.1.2 Network theory**

The term "networks" has several meanings in the business world (Dupuy, 1989). It refers to a mode of organization of companies among themselves, in the form of strategic alliances and cooperation, which allows the development of a competitive advantage not only in terms of costs but also in terms of strategies. Paché and Paraponaris, (1993) defined three types of networks: upstream networks composed essentially of infrastructures and investments with important fixed costs, in the center including control and coordination services, downstream services intended for the satisfaction of patients' needs. The literature affirms the advantages of networks as an essential means of innovation in inter-organizational cooperation and performance management in terms of Transaction costs (Williamson, 1979). Networking allows the mobilization of the agency theory developed by Jensen and Meckling in 1976. This theory is based on a certain number of hypotheses such as the asymmetry of information between the agent and the principal and the opportunistic behavior of agents. These phenomena can be reduced by the conclusion of complete contracts, the signing of the hospital charter and better communication of the financial results of the establishment (BSC, reporting).

### **1.1.3 The theory of contingency**

The mutations and changes that have shaken the business world, especially after the global crises such as the 1929 crisis, the 1973 oil crisis and the 2008 economic and financial crisis, have given rise to the debate on the contingency factors that can influence the management control function. Thus, the contingency theory states that the structure of the organization must adapt to the characteristics of the environment in order to achieve good performance. Otherwise, we find the following contingency factors: technology (Woodward, 1960), organizational configuration (Mintzberg, 1989), environment (Burns and Stalker, 1961) and strategy (Miles and Snow, 2005). The contingency related to the Covid 19 pandemic can

significantly influence management control systems and impact the organizational performance of health care institutions, which depends on the level of alignment between structural elements and the various contingency factors. As a result, hospitals must adapt quickly and effectively to the threats of an unprecedented crisis, the Covid19 pandemic (Mahnken, 2020), which will disrupt supply and demand and expose control systems to vulnerability.

#### **1.1.4 Simons' theoretical framework**

Robert Simons developed a theory entitled "the levers of control" in 1995, in order to explain the complex relationship between management control and strategy. He distinguishes four control levers that executives and managers use for organizational change and for the implementation and control of strategy. These are: belief systems, which are used to inspire and direct the search for new opportunities; boundary systems, which serve to frame the search for opportunities and limit the risks of agency; diagnostic control systems, which motivate, monitor and reward the achievement of objectives; and finally, interactive control systems, which focus on dialogue and knowledge exchange. This last lever can be considered as the most interactive one, stimulating organizational learning, stakeholder motivation and the emergence of new strategies that are the source of all value creation.

#### **1.1.5 The Neo-institutional theory**

The influence of the institutional environment of the organization on the adoption and adaptation of management control systems was revealed by the research of Meyer and Rowan (1977). For them, control systems do not reflect the internal needs of the organization but serve to display a certain rationality in order to be legitimate in the institutional environment. Thus, the implementation of a management control system will certainly depend on two factors: the culture of the organization, the distribution of powers between functions and the principles of responsibility. Indeed, according to DiMaggio and Powell (1983), neo-institutional theory assumes that the survival of the organization requires a certain conformity to social norms. Moreover, the search for legitimacy encourages hospitals to adopt control structures in accordance with their institutional environment.

DiMaggio and Powell (1983) identify three processes: coercive, mimetic, and normative through which institutional expectations are transmitted to organizations. The coercive process corresponds to the pressures coming from the institutions on which the organizations are dependent (the State and financial organizations), hospital pricing, for example, constitutes a coercive institutional factor through which the State influences the mode of financing of health

care institutions. The mimetic process characterizes the choices made in situations of uncertainty when it is difficult to know the "right solution", it seems legitimate to copy what other hospital directors and management controllers are doing. The normative process is explained by the professionalization of the actors (doctors and nurses): they belong to a professional network and have undergone training that normalizes their behavior. As a result, in this highly institutionalized environment, the adoption of management control systems by hospitals seems necessary in order to have credibility in the eyes of the state and financial organizations (ANAM, CNSS, CNOPS).

## **1.2 Logistics Performance in the Hospital Sector**

The logistics or supply chain management function is one of the key functions within organizations. In the literature, few studies have been devoted to the study of this function in hospitals. This function encompasses a number of coordinated and complementary activities in a cross-functional approach involving several organizations and companies. It allows the generation of financial, material and information flows.

### **1.2.1 Characteristics of the Moroccan hospital**

According to Mintzberg (1982), the hospital can be considered a "professional bureaucracy" type of organization, which can be interpreted by the level of qualification required in terms of knowledge and know-how for doctors and nursing staff. But also, the standardization of the norms related to the protocols of care given to the patients. According to Dubois (1986), the hospital is like a company, with a budget that allows it to make purchases, manufacture, store products, manage personnel and distribute products and services. It is a complex organization bringing together many functions and services (Burlaud and Malo, 1988). According to the decree n° 2-06-656 (April 13, 2007) relating to the hospital organization, the missions of the hospitals under the Ministry of Health are to provide, with or without accommodation, the following services: diagnosis, care and services to the sick, injured and parturient, emergency care required by their state of health and follow-up care or rehabilitation. Therefore, the hospital is a medical and social organization that has several missions and functions. The last hospital reform dates back to 1994, and insisted on the institutionalization of basic medical coverage and the introduction of new sources of financing. In Morocco, hospitals are classified according to specialization, territory, management mode and capacity and we distinguish four types of structures: university hospital centers (CHU), regional hospital centers (CHR), prefectural hospital centers (CHP) and proximity hospitals. According to the internal regulations of the

hospitals, the organizational chart includes four committees: the establishment committee, the management committee, the committee for the fight against nosocomial infections and the monitoring and evaluation committee. There are also three management divisions: medical affairs division, administrative affairs division and nursing division, not to mention the doctors' council and the nurses' council. On the other hand, two services are distinguished: the hospital pharmacy service and the reception and admission service (SAA). All these functions are linked by hierarchical and functional relationships. On the other hand, the hospital establishment has a strategy that sets the strategic and operational objectives to be achieved and the monitoring and control indicators over a period of 3 years, called: "the hospital establishment project" (HEP).

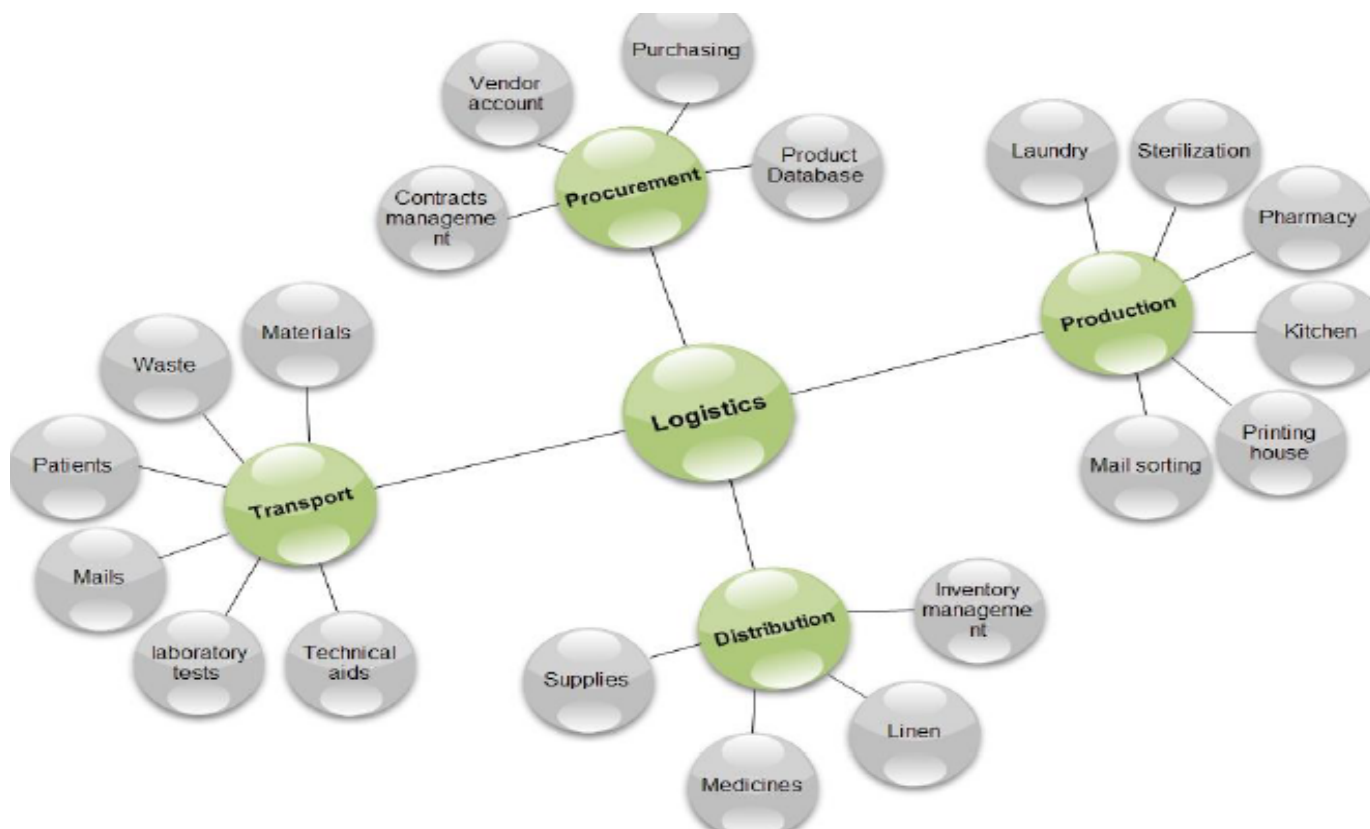
### **1.2.2 The hospital logistics function**

The concept of logistics has its origins in the military art, it comes from the Greek ((Logizomai), meaning the art of reasoning and calculation, it is in the military jargon of all the techniques of transporting supplies and troops. Thus, Gustat and McGinnis (1980) introduced the concept of logistics in the health sector at the beginning of the 1980's. They proposed this new concept as opposed to the management of materials or the management of equipment in health care institutions. The French association for logistics (ASLOG) defines hospital logistics as follows: "Hospital logistics is concerned with the management of the flow of patients, products, materials, services and information, which are related to them, from the supplier to the beneficiary, at a defined level of performance in the service of the quality and safety of care provided to patients". Landry and Beaulieu (2005), break down hospital logistics into five missions: The internal logistics grouping the supply of supplies used during the provision of services provided within an institution, The management of demand, by forecasting, planning and orchestrating resources, The management of support activities of the patient during his passage in the institution, from his admission until the rehabilitation of his autonomy, The external logistics associated with the activities of medical monitoring of the patient and ancillary services offered by the hospital: animation, gifts and ceremonies. Rivard-Royer and Beaulieu (2004), describe the evolution of logistics practices within hospitals, from a decentralized management of supply where each care unit manages its own supplies to a centralized management of supplies, particularly with the significant increase in the range of products. Currently, we have moved towards an integrated and systemic management of the supply chain based on the introduction of new inventory management practices from industrial



logistics. On the other hand, Chow and Heaver (1994), have identified all the activities of the supply chain which are grouped around three categories: supply, production and materials management. Also, the work of Beaulieu et al (2014) highlighted four categories of the hospital supply chain: procurement, production, replenishment and transportation. Figure 1 illustrates the different branches of the hospital supply chain according to Beaulieu (2014).

**Figure 1: The Ramifications of The Hospital Supply Chain**



**Source: Chow and Heaver (1994), adapted by Beaulieu et al. (2014)**

In other words, Chow and Heaver's model ignored the activity of transport in and out of hospitals as a primary activity within the hospital supply chain. This activity will also be introduced in the work of Carron et al (2013) who have shown in the Australian context the importance of transport in access to care, particularly for the elderly and especially in the case of chronic diseases. Patient transport is thus a logistical activity whose challenges and organization go beyond the hospital alone. It concerns the entire hospital network of the region while mobilizing human resources (ambulance drivers) and expenses related to fuel and maintenance of ambulances. Moreover, the study by Chow and Heaver shows that the logistics function represents 46% of a hospital's operating budget without the managers being fully aware



of it (Abdulsalam and Schneller, 2017). This study will be confirmed by the work of Landry and Ali. (2001) who state that a logistics budget represents about 33% of hospital expenses. In this sense, modern literature shows the possibility of achieving economies of scale of up to 15% of the supply chain according to Davis (2004), through the management of internal processes. Landry et al (2000) published a list of best managerial practices concerning the operation of the hospital supply chain. These logistics practices include the use of information systems (ERP, SAP, EDI), the outsourcing of certain activities, the standardization of products, the centralization of logistics activities around a main hub, the use of a purchasing group, and the management of stocks through a distribution platform that centralizes all supplies for a group of establishments. These "best practices" are found in European and North American hospitals. In 2001, the work of Blouin et al. identified the different ways of organizing an internal supply flow within hospitals: the requisition of products for which a need has been identified from the central store to the care unit by the nursing staff, the exchange of carts when the products have been consumed, and the replenishment of supplies by level of care unit, using a barcode system of double racks inspired by the kanban system developed by Toyota Motors in the 1950s. Thus, the implementation of these "best practices" will ensure the exploitation of the hospital supply chain through the reduction of logistical work time for the nursing staff, the reduction of storage costs, the availability of products, the safety and quality of care and patient satisfaction.

### **1.2.3 Hospital logistics performance**

The concept of performance has evolved throughout the history of management science. At the beginning, it was given a one-dimensional vision focused on the financial aspect through cost reduction according to the famous triangle of Gibert (1980): effectiveness, efficiency and relevance. In this perspective, the notion of performance is centered on the internal process of the organization and is limited to the achievement of objectives at the lowest cost with the creation of wealth for the shareholders. From the 2000s onwards, the notion of performance is no longer limited to the financial aspect but takes on a broader dimension, that of organizational performance based on "the understanding and collective mastery of actions and organizational skills that are very delicate to measure because processes and skills are complex" (Lorino, 2003). Currently, performance has taken on a global and multidimensional dimension, encompassing economic performance, social performance and environmental performance according to Reyanaud (2003) and Baret (2006).

On the other hand, the success of a company depends closely on the performance of its supply chain, requiring a global vision in order to improve the performance of the supply chain. In the literature, many researchers have tried to evaluate logistics performance through theoretical models. In this sense, Langley and Holcomb (1992) define logistics performance as "the creation of value through productivity, efficiency and customer service differentiation". Fugate, Mentzer and Stank (2010) also show that the performance of a commercial supply chain can be analyzed through three dimensions: effectiveness, efficiency and differentiation of the logistics offer. These studies show a positive correlation between logistics performance and organizational performance. On the other hand, the work carried out by Morana and Pinardi (2003), and Bartolacci (2004) show a significant improvement in the performance of the logistics chain and the control of costs via the implementation of the ABC method (Activity Based Costing). Otherwise, the choice of performance measurement indicators appropriate to the supply chain has been the subject of much work. In this sense, Nakhla (2006) observed the limits of traditional logistics performance indicators such as: inventory turnover and service rate. According to Nakhla, other indicators must be taken into consideration in the measurement of logistics performance and which contribute perfectly to the creation of value such as patient satisfaction, quality of services, length of stay, safety of services. Indeed, according to Serrou and Abouabdellah (2016), the most relevant logistics performance indicators are four in number: safety, cost, quality, and delay.

On the other side, many research works on hospital logistics performance have emphasized the cooperation, collaboration and coordination of logistics activities for the development of conceptual models of performance measurement (Hieber, 2002). This was confirmed by the work of Mounir & Gouiferda, (2020) focused on collaboration and the importance of information exchange in the pharmaceutical and industrial sectors in Morocco which led to the conclusion of the need to develop communication mechanisms and collaboration for the improvement of overall performance through information systems that allow the collection, processing and sharing of information (Dweekat, Hwang, & Park, 2017). As a result, several recent works have demonstrated the importance of Big-data and blockchains in the design and implementation approach of intelligent global performance measurement systems ((Kamble & Gunasekaran,2020), Gawankar, Gunasekaran, and Kamble, (2020), Abdel-Basset, Manogaran, Mohamed, (2018).

To this end, in recent years, several hospitals have implemented this Lean management system (Taher, Landry and Toussaint, 2016) as a performance management and decision support system. Consequently, good control of the performance of the supply chain can be a source of value creation for the hospital establishment through the reduction of patient care costs thanks to better synchronization of physical and informational flows and an optimal choice of resources. In this way, the performance of the supply chain enables the needs of patients to be met in terms of safety, quality, cost, time and quantity. The hospital logistics performance must take into account the consequences related to the Covid pandemic 19 through the adoption of new practices based on innovation and the control of risks related to the supply chain by incorporating a risk management cycle (Define, assess and prioritize, respond and monitor), in order to cope with any disruption of the supply chain (Sharma, 2020). The table below illustrates the main works identified in the literature dealing with the measurement of hospital logistics performance.

**Table 1: Selective Review of Tools for Measuring Hospital Logistics Performance**

AUTHORS	YEARS	METHOD
JOBIN MARIE-HELENE & AL	2003	PERFORMANCE AXES
NAKHLA & AL	2006	THE KEY INDICATORS OF PERFORMANCE
FATEH MEBREK	2008	SIMULATION
ABU BAKAR & AL	2010	DEA METHOD
IBN EL FAROUK & AL	2012	SCOR METHOD
SERROU & ABOUABDELLAH	2016	Performance Indicators
TAHER, LANDRY & TOUSSAINT	2016	LEAN MANAGEMENT
MOUNIR & GOUIFERDA	2020	INFORMATION SYSTEM (ERP, SAP, EDI)

**Source : Authors**

## **2. THE THEORETICAL LINKS BETWEEN MANAGEMENT CONTROL AND HOSPITAL LOGISTICS PERFORMANCE**

The main objective of any hospital strategy is to provide quality care with greater safety in order to achieve patient satisfaction. However, hospitals today are faced with budget constraints, demographic changes, technological innovation and human resource shortages. In order to cope with these constraints, managers of health care institutions have to take decisions to improve their performance. These measures consist of cost control by reducing stocks, limiting waste,

good stock monitoring and the traceability of products and services. It is in this perspective that management control is used as a tool to assist in decision-making and to manage hospital logistics performance. It uses practices for optimising logistics performance such as costing methods, budgetary control, management charts and reporting. On the other hand, the notion of cost reduction is complementary to that of quality of care, the objective of which is to provide patients with the right product, at the right time and in the right place with the lowest possible costs.

### **2.1 The contribution of mobilised management control theories on logistics performance**

In the literature, there is a great deal of research on the use of management control to evaluate the supply chain. Indeed, the performance of the supply chain is part of an inter-organisational performance approach based on coordination and collaboration between several companies (Balambo and Houssaini, 2011). Thus, logistics performance is defined as: "the network of companies that participate, upstream and downstream, in the various processes and activities that create value in the form of products and services brought to the final consumer" (Christopher, 2005). In this sense, some authors have proposed Petri nets as a solution for designing, implementing and managing supply chains (Smata, Tolba, Boudebous, Benmansour, and Boukachour, 2011). However, due to the multiplicity of actors involved in the supply chain, several authors have analysed the impact of management control in the context of customer-supplier relationships via the partnership approach or the stakeholder theory and the impact of this relationship on value creation (Nogatchewsky, 2009). Also, Gouillet and Meyssonier (2011) have identified the different control levers implemented in supply chain franchises. As for Lemaire (2013), he studied the construction process of an inter-organisational management control tool in the context of public/private partnership.

The interest of the stakeholder theory lies in the determination of the internal and external actors that the hospital must take into consideration. However, the contributions of contingency and stakeholder theory help to explain the tendencies of hospitals to take into account dimensions other than financial ones (Covid pandemic 19). According to Pigé (2012): 'performance should be a multi-dimensional concept that takes into account the performance of the company from the perspective of each stakeholder'. Contingency theory states that the sustainability of the hospital's performance depends largely on the degree of alignment between its structural elements and different contingency factors such as environment, technology or strategy

(Ahssina,2011). Contingency provides the hospital with an array of factors on the basis of which to design the dimensions of its logistical performance. Simons' theoretical framework (1991, 1994, 1995), distinguishes two control systems: diagnostic control systems including information systems (ERP, SAP, EDI), which are used by managers to monitor the hospital's results and correct deviations from predefined performance standards and interactive control systems defined as formal information systems used by managers to regularly and personally involve themselves in the decisions of their subordinates (Berland and Simons, 2010). The theoretical framework proposed by Simons shows the importance of shifting to interactive control modes that promote organisational learning and the implementation of tools for steering new strategies and directions. The pressures and constraints imposed by the state, public and private bodies, civil society and lobbying must be taken into consideration by the hospital establishment, so the neo-institutional theory constitutes a reference framework for management control because it emphasises the role of institutions in the development of the hospital's strategy, but also to put in place management control tools adapted to the institutional requirements linked to coercive, normative and mimetic isomorphisms (DiMaggio and Powell, 1983).

## **2.2 Management control tools used to improve the hospital supply chain**

The relationship between the supply chain and management control occupies a very important place in the Anglo-Saxon literature. In this sense, a stream of research has developed around management control and supply chain management called "supply chain management control". According to Horch (2009), this trend supports supply chain management in the management of material, financial and information flows from an inter-organisational perspective between the various members of a logistics chain. This steering of the performance of the supply chain is accompanied by the mobilisation of management control tools and devices. To this end, we will identify a set of systems that are summarised in the following table:

**Table 2: Selective review of management control methods used to improve hospital logistics performance.**

AUTHORS	PURPOSE OF THE WORK	METHODE UTILISEE
LANDRY & AL (2001)	The Best Practices in Hospital Logistics.	Cost Accounting (Costing, Budget)
JOBIN MARIE-HELENE & AL (2003)	Evaluate the overall performance of the hospital supply chain	Balanced Scorecard (BSC)
PIGE & LARDY (2003)	Measure Variances Between Actuals and Forecasts	Budget Control
DI MARTINELLI & AL (2009)	Modeling And Global Analysis of Hospital Logistics Performance	SCOR Method
SMITH.C & AL (2008)	Analysis Of Overall Performance in The Health Sector	Scorecard
IBN EL FAROUK & AL (2012)	Hospital Logistics: Pharmacy and Patient Transport	The Value Chain
NICOLASPETIT (2013)	Determine The Key Indicators of Performance and Allocation of Expenses. Determination of value-creating activities	ABC/ABM
BERNARD & AL (2018)	The creation of value in hospitals. Accountability in these institutions.	Reporting

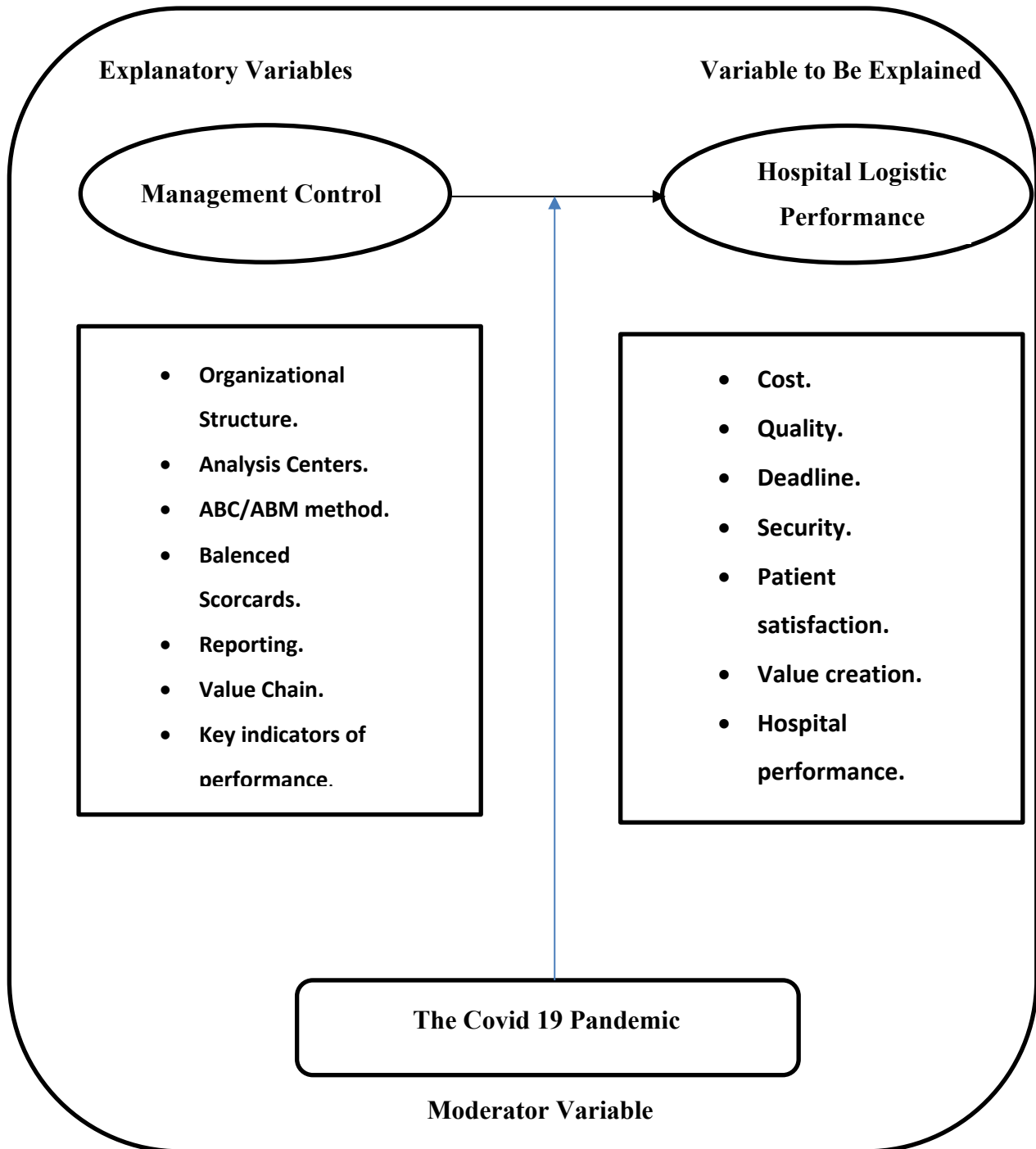
**Source : Authors**

### 2.3 The conceptual model

According to Anthony (1988), "management control is the process by which managers influence other members of the organization to implement the organization's strategies. Thus, the shift from a universal classical approach applicable to all organizations to a flexible approach that is adaptable to the hospital sector requires the intervention of a theoretical framework bringing together a set of theories such as contingency theory, stakeholder theory, resource theory and value chain theory developed by Michael porter (1986), which considers the logistics function as the main activity within each organization. On the other hand, Gervais (2009) by completing the definition of Anthony (1988) defined the performance of the supply chain by the meeting of effectiveness which is the ability to achieve the desired objectives, efficiency which is the result achieved by the resources committed and relevance which is a harmony between the objectives and the means available, and to measure this performance, it is necessary to choose observable indicators, measurable or defined in an operative way, these indicators must be able to discriminate between different differences in performance. However, since the adoption of the Health Plan 2025, hospital managers are trying to introduce management control in their structure as a synonym of good governance, but also in order to reduce expenses and charges related to patients' stay. On the other hand, performance is a multi-disciplinary and multi-dimensional concept; it encompasses a range of facets depending on the objectives targeted. Thus, in our case, we will look for logistical performance which can be

expressed by the cost, quality and safety of the care provided to patients, it allows to evaluate the degree of patient satisfaction. It can even become a source of value creation for the organization according to Charreaux (2001). Based on the above, we propose the following conceptual model illustrating in Figure 2 the relationship between management control tools and the dimensions of hospital logistics performance:

**Figure 2: The conceptual model**



Source: Authors



## CONCLUSION

Moroccan hospitals are currently facing risks related to financing but also to the uncertainty and complexity of the Covid 19 pandemic. The introduction of management control tools as a means of steering logistics performance seems necessary to remedy the shortcomings of the latter. It is true that the literature review has shown that the logistics chain can have a positive impact on hospital performance, and should be considered at the heart of hospital activity and not as a support function.

However, the research work implemented by Chow and Heaven (1994) and Landry and Banlieu (2014) showed the main role of management control methods for improving hospital logistics performance through the identification of value-creating logistics activities thanks to tools such as ABC or ABM. Also, the choice of indicators for measuring logistics performance must be aligned with the objectives set by the hospital's board of directors, taking into account the institutional imperatives of the state and the public and private health care financing bodies (AMO, RAMED, CNSS, CNOPS). Otherwise, the use of management control in the context of optimizing hospital logistics will allow the reduction of storage costs, the rationalization of hospital expenses, the availability of drugs, materials and consequently the satisfaction of patients through quality care with more security and at the lowest cost.

On the other hand, the theoretical contributions in management control constitute the basis for the conceptualization of a theoretical model allowing to analyze the degree of impact of the use of management control on the hospital logistics performance and to identify the variables that can constitute the econometric model to measure this relationship in a concern of improvement of the performance of the hospital logistics chain in a context marked by the repercussions of the covid 19 pandemic ( Pymnts, 2020).

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