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LOGISTIC CHAINS AND PERFORMANCE IN SMEs: INFORMATIONAL ASYMMETRIES, MANAGERIAL IMPLICATIONS AND ADDED VALUE. *Specific case of Camerounian SMEs.*

Management

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ABSTRACT

Distributors are the only people who know the real market consumption in most logistic chains; in effect, suppliers frequently use orders to estimate the market. However, we know that a multitude of elements are involved and make orders not directly translated as demand. Initial information is deformed by several constraints when it is transmitted to upstream link that justifies the bullwhip effect of supply chain and pushed stocks. Finally, the manufacturer forecasts wrongly because of these asymmetries, and also not because he would be a bad statistician but because he is based on historical orders not historical sales which he does not have available. The proposed solution in the frame work of this article is the « cross docking mobile », a new logistic technique that consist in managing informational flow of orders efficiently in the opposite direction of physical flow.

KEYWORDS

Supply chain, logistic chain, physical flow, informational flow, mobile cross docking.

INTRODUCTION

Multiple definitions of Logistics exist as well as Supply chain. (Pimor et Fender, 2008), « Logistics consists of carrying what is required, where it is required, and when it is required », or carrying the right thing, to the right place at the right time. It always recovers the functions of transport, storage and handling and tends to stretch its domain in upstream towards purchases and supply, in downstream towards commercial management and distribution (Médan et Gratacap, 2008). Most often Supply Chain is defined as the continuation of the production and distribution stage of a product from the suppliers' supplier from the manufacturer right up to the customers of his customers (the definition of the supply chain council). Let us precise that the perimeter of supply chain has evolved certainly because of a competitive and globalised event. From the beginning, the concept of Supply chain was being used to describe the supply chain of an enterprise Houlihan (1988). It was necessary to associate to it the qualificative adjective « integrated » in order to evoke the global chain of suppliers to customers. Nowadays, it should be well recognised that, even if the distinction is always possible, the term integrated is implicit. Given that it means a chain, the most classical representation of supply chain is a horizontal sequence of nods and arrows, upstream downstream from the suppliers to suppliers from customers to customers. But the linear perception does not help to actually describe the phenomenon, as scarcely simple in reality, especially since the important movements of delocalisation and relocalisation took place in the middle of many global groups. It is for this reason that we prefer to compare with the tree in order to better retranscribe the logistics chains which are usually complexes as found as examples in industries. A logistic chain is also seen as a group of enterprises intertransmitting materials (La Londe et Masters 1994). By the general rule, many independent actors participate in the fabrication of a product and at its start up to the final consumer – producers of the raw materials and components, assemblers, bulk buyers, distributors, and transporters, are all members of the logistic chain. All the same, Lambert, Stock et Ellram define a logistic chain as an alignment of enterprises that lead products or services up to the customers. (Lambert, Stock et Ellram 1998). Another definition considers the logistic chain as the network of enterprises that participate in upstream and downstream to the different final consumers (Babei, J- &Paché, G. 2015). These logistic chains also exist as well in service organisations as in production organisations (Ganeshan et Harisson, 1995). All these approaches sufficiently show the essence of controlling production through a good mastery of the demand that is say, the market consumption. The contribution of the set of actors of the chain in the transmission of needs remains absolute; in return, the difficulty in determining the quantity to produce remains quite certain. At the level of logistic chains, only the distributors know the real market consumption; the suppliers can only dispose of the orders so as to estimate the market. However we understand a multitude of elements only make the orders but do not really reflect the demand. Many constraints deform the initial information when transmitted to the upstream link justifying this concept of horse whip effect and the push flow. At the end, because of these asymmetries, the manufacturer makes bad forecasts, not that he is a bad statistician, but because he bases on the past orders, and not on past sales that he does not even have. The fundamental problem arises: that of the mastery of production based on orders and therefore the performance of logistic chains. This is the reason why the problem statement of this article lies evidently on the problem of the mastery of the order, logistic chains and performance in SMEs and which is summarised in the following ways: What strategies can we envisage to master the demand, logistics chains, notably in the case of SMEs in Cameroon ? For the importance of the concept of logistic chains is such that some authors today affirm that the competitive model can only oppose in rare cases firms among themselves, but on the other hand opposes the supply chains amongst themselves. The management of the supply chain, in these conditions, imminently becomes strategic.

1. THE FRAMEWORK OF ANALYSIS

1.1. Definition of logistics chains

Many definitions have been proposed in the literature review to explain the term « supply chain » or « The Logistic chain », but all do not approach this notion from the same angle. Some adopt the point of view of the « product » and others take the point of view of « the enterprise » and again « procedures ». A synthesis of different existing works has helped us to develop a set of useful view points for the definition and characterisation of a Logistic Chain (Gruat, 2007). Many definition highlight on the term « Chain » and identify the set of elements (actor and flow) existing in the midst of Logistics chain. A logistic chain can be perceived as a network of suppliers, producers, contractors, distributors, retailers, and clients among whom there is the exchanges of materials flow from upstream downstream , pieces of a two-way information flow (Tayur et Ganeshan, 1999 ; New, 1997) and financial flow from downstream upstream (Stadtler, 2000 ; Babei, J. &Paché, G. 2015). These logistics chain exist as well in service organisation as in those of production (Ganeshan et Harisson, 1995).

A more operational vision equally exists about logistics chain which more and more underlines the processes of a supply chain. Lee et Billington (1993) therefore defines the logistics chain of a finished product as a network of installations which insures the supply functions in raw materials, the transformation of these raw materials into components and then into finished products, and the distribution of the finished products to the customers. Finally, certain works insist more and more on the finality of a logistics chain and introduce the notion of performance; this performance being principally characterised by satisfaction of the final consumer. The definition that we retain in the framework of this write up in view of the proceedings is that which defines the logistics chain as a global network of organisations cooperating to reduce the cost and augment the frequency of material and information flow between the suppliers and the customers. Fenies and Gourgand (2004) completes this vision of the logistics chain by distinguishing the collective performance (global optimisation of the supply chain function) and the individual performance (maximisation of the profit of an entity)

1.2. Literature review

In the existing literature review, there are a lot of controversies around the concept of the logistics chain which reveals the absence of a unique

definition of the term. If a universal definition of logistics chain does exist, neither will there exist a single type of logistic chain. Some will even attempt to affirm that no logistic chain looks alike and that everyone of them has specific features which justify the integration, the functional strategy, their end results and ethics … However, in literature there exist a certain number of generic models that can help to characterise a given logistic chain, from a structural, organisational, and functional point of view. In the structural approach, in order to characterise the physical structure of a logistic chain, the most popular model is undoubtedly that of Lambert et Cooper (2000) which proposes a triple dimensional structure of a logistic network : the horizontal dimension refers to a number of levels (a third) existing along the chain, which can be more or less long, the vertical dimension refers to the number of suppliers to customers at each level of the supply chain, which can also be more or less wide, the third dimension refers to the position occupied by an enterprise in the chain, this position is situated more or less close to the final customer. In the organisational approach, beyond its physical structure, a logistic chain can frame up many organisational forms which will by itself strongly condition its functional modes. Finally, the functional approach, to this end, Meyrs et al. (2002) proposes a typology of logistic chains by notably identifying a list of functional attributes helping to characterise each of the entities of a logistic chain. These attributes concern the types of supplies, the type of production, the type of distribution, and the sales types which characterises the management model of logistic chains. Many models related to the characterization or to the management of a logistic chain are built up around many tasks. First of all, the approach proposed by Gilmour which consists of analyzing a logistic chain according to triple angle view: processes, information technologies put in place and the organization. The model also breaks up the logistic chain of an enterprise into six competent keys of process type known as “capabilities” or organizational capacities. These competences are then linked to relative aspects to technologies and the information of the organisation of the logistic chain, these two dimensions help to categorise the questions in the audit approach. And then the work of Cooper and al.. Cooper and al model, puts forward the link existing between processes, management components and the structure of a logistic chain (Cooper et al., 1997). This model is also centered on nine processes. Two among them concern directly the physical flow (“product flow” and “return channel”) and the seven others correspond to informational processes. The structure of the logistic chain is as of itself represented by a classical chain up of functional entities, from suppliers to customers passing through purchases, supplies, production, distribution, and sales. On the other hand the approach envisaged by the SCOR model (Supply chain Operations Reference model) which is a standardized methodology of descriptions and evaluations of flow in its logistic chain is modeling instrument which today represent an object of reference in the industrial world, from its origin. The model is organized around interactions between customers and the logistic chain, from the receipt of order up to the payment of the bill. It is equally the set of exchanges operating from the customer's customer up to the supplier's supplier. Finally, this model qualifies the activities concerning the demand, right from the analysis up to the execution of every customer order. All the same the works realized concerning the model of the Aslog (Association française pour la Logistique) the works of this model make an object of referential standard helping to reach logistic excellence (Aslog, 2006).This model supports the processes of logistic chain and helps an enterprise to characterise its actual situation as well as the evaluation of its logistics performance. From these elements of characterisation, the authors of this model analyse the situation of the enterprise in the midst of the logistic chain and formulates a number of recommendations to facilitate some future ameliorations.

Finally, the Evalog Model, the proposed logistic guide by this organisation is as for itself destined for automobile industries and design its analysis on six major themes of which four are of the process types. Many questions, of which the importance is weighted by a system of points, are attached to each one of these designs and constitute a set of good practices of the automobile sector (Evalog, 2006). From these five models, whose approaches are more or less different and at times contrasted, it is possible to bring out a set of principal processes of a logistic chain. It therefore seems evident that a set of grouped up activities under each of these processes contribute to the production of a result or a value added vis-à-vis a customer (Guérin, F., Fredouet, C. & Lambert, R. 2014). This notion of value for a customer refers to that of performance in the conception of the process and necessitates the definition of one or more objectives on every activity that defines the process (Lauras, 2004). The performance of a logistic chain can therefore be directly associated to the performance of these processes and more precisely to the pertinence of actions or the decision piloting it.

1.3.Methodology and empirical framework of our study

The unit of sampling of our empirical study being the SME, we are going first of all to define the concept of PME under evidence here and in the Cameroonian context and at the end consecrate ourselves to the empirical framework of our study. In a general perspective, the SME can be apprehended as quantitatively, by its enrollment of employees, its business capital, its level of actual capital, and even its level of investments, as qualitatively (Silem, 1994) as being autonomous enterprises in which the managers assume the financial, technical, and social responsibility without disassociated elements. The absence of a unique and harmonious definition does not facilitate the identification of an SME in Cameroon. However, based on the retained criteria in the usual definitions of SME and of the possibility to easily access related information to these criteria, we have considered SME as in our study, the satisfying unit to the following conditions; to be managed by the nationals, to be the property of the nationals, to have the enrollment of 150 persons or more; to have a business capital of less than 1000 million CFA frs being 1,524,490 euros. Although not having a framework of a precised sampling that agrees to the profile of SME retained for our study, we have been able to obtain programs and annuals of some professional syndicates such as the GICAM (Groupement interpatronal du Cameroun), le Syndustricam (Syndicat des industriels du Cameroun), Pro-PME (Organisme Canadien des PME au Cameroun) pertinent information for the constitution of our sampling.

1.3.1.The empirical framework of our study

Is there any relationship existing between logistic chains, informational asymmetry of demand, the value added and performance? In other words, has the performance of logistic chains managerial implications in the enterprise? In order to respond to the problem statement of this research, we have carried out an investigation in SMEs of the town of Douala in Cameroon. We have chosen a collection of Commercial, Industrial and Service SMEs as our study environment situated in Douala (Cameroon), to which we have submitted a standard questionnaire. The table below displays the distribution of 60 SMEs of our study by sector of activity.

Table 1 : Distribution of 60 Cameroonian SMEs by sector of activity

Sector Of Activity	Number Of Establishments	Percentage Of Establishment
Petrol distribution industries	12	20
Agro alimentary industries	16	26,6
Commercial Services	7	11,6
Chemical transformation	2	3,4
Paper and carton industries	7	11,6
Cement industries	3	3,4
Wood transformation industries	3	5
Biochemical and brewery industries	3	5
Plastic industries	2	5
Materials fabrication	2	3,4
Service Industries	2	5
	60	100%

Internal source

The four principal sectors in our sampling are ; Petrol Distributions industry, Agro alimentary industry, Commercial services, Paper and carton industry. These principal sectors represent about 69.8% of the whole Commercial, industrial and Service SMEs of our study. It means the sectors excluding Petrol distribution industry, and Agro alimentary industry, sectors that do not represent a heavy logistics density, that is to say, not having permanent and regular logistics activities. Meanwhile, our sampling is lightly underrepresented in the agro alimentary industry, a developed sector, highly competitive and very competing. On the other hand, the sectors of biochemical, cement and brewery industry including Petrol distribution would represent about 18%. This means the sectors in which there are great problems of storage and handling, and especially controversy on the exact quantity

to be ordered and to be fabricated. These industries would bring enormous problems of transport, warehousing and notably the mastery of the logistics chains; it for this reason that it appeared very useful to us to carry out a more vivid analysis, to present the group of enterprises having a high logistics density and the other enterprises at a less developed density as shown on the following table;

Table 2. Sectors of regular and permanent logistics activities and others.

Sector	Number Of Establishments	Percentage Of Estableishments
Petrol distribution industries	12	20
Agro alimentary industries	16	26,6
Cement industries	4	6,7
Biochemical and Brewery industries	4	6,7
Others (1)	24	40
Total	60	100%

I*nternal source*

*(1) OTHERS (General Commerce) Commercial services, Chemical transformation, paper and carton industry, Wood transformation industry, Plastic industry, Materials fabrication, Service industry. This is about sectors not having a high logistics density, meaning, not having permanent and regular logistics activities.*The essence of studying these SMEs here in their environment and the used logistics chains is therefore absolute. The motif for studying the SMEs localised in the town of Douala(the economic capital) in Cameroon is triple (Nkaleu, 2001 ; Beyina, 2003 ; NdongNtah, 2004 : the first advantage is related to the fact that the study is in the town of Douala. In effect, it is about the economic capital of Cameroon which brings together the principal ports, railways, airways activities of the country. The second advantage comes because of the high density of SMEs in this town ; also the analysis of the problem of logistics chains can effectively help to validate or invalidate the negative dependence of the informational asymmetry of orders and the reverse of the physical flow of their performance. Finally, the choice of the town of Douala as the environment of analysis helps to better understand the behavior of the managers of SMEs vis a vis logistics, thus, on modes of transport, on handling, on storage, and on support in terms of financial help to be given to logistics chains, and to the efficiency of information systems and notably concerning the management of demand. Totally, we have censored a list of SMEs, which constitutes the mother population of our investigations. The mother population is composed of 180 industrial and commercial SMEs adhering in patronal organizations, Promote, Cretès, et de Pro-PME(12) which is Canadian organization for the promotion of SMEs in Cameroon. Based on this mother population, we constituted a sampling of 70 SMEs of industrial, commercial, activities and assimilated services among which 60 SMEs responded to our questionnaires.

1.3.2. The research hypothesis

In many cases, only the distributors know the real market consumption; in fact, the suppliers only have but the orders so as to estimate the market. Thus, it is known that only a multitude of elements make but the orders that do not reflect the demand. Administrative, financial, logistics and transport constraints … deform the initial information when it is transmitted to the upstream link (Eward S., Karine, et Ruel S. (2013). At last the fabricator, because of partitioning and symmetries, make wrong predictions, not because he is a bad statistician, but because he bases on the historical orders, and not on the historical sales that he does not have. Two phenomena appear to aggravate this situation: it is about the variability of the demand and the delivery deadlines. The more these elements are high, the more the effect of bullwhips is hard, which brings us to the formulation of the first research hypothesis of our study as follow : « the informational asymmetry of demand (customer order) in a reversed physical flow would influence the performance of the logistics chains of the enterprise."**H1** In order to resolve this asymmetry and this deformation of information between the links of a supply chain the solution will be for some to decompartmentalise, that is to say, to eliminate the internal and external barriers of the supply chain, and for others a distribution of information, that is to say the downstream level supplies to the upstream level more detailed information on its activity, without necessarily putting in question in a systematic manner the previous organisation of orders and its performance in the logistics chains. The performance of an enterprise within its logistics chain is apprehended through the satisfaction of a set of inherent objectives to the chosen strategy. These objectives are established on several horizons and then we can talk of strategic, tactical, and operational objectives (Ruel, S. &Ouabouch, L. 2017). Given the numerous objectives of an enterprise that are declining according to these three managerial dimensions a consequent number of indicators is required. We can then talk of indicator systems which consist in one « set of necessary and sufficient indicators as regards envisaged actions, defined in conformity to a set of all the objectives of the systems considered. » (Ruel, S. &Ouabouch, L. 2017). And in order to evaluate the degree of attainment of each objective, an enterprise seeks help from the measure of its elementary performance. For this reason it relies on a set of indicators of performance or systems of indicators. Far from being independent, these indicators are inter linked and this is the consideration and simultaneous analysis of the set of these indicators which helps to evaluate the evolution of the value, the coherence and the performance of a logistics chain. Different typologies are proposed in the structural model of the measure of performance and classifies these indicators around the notions of quality, flexibility, utilization of resources and innovation (Fitzgerald, 1991), to which we can add the reactivity, productivity and viability (SCC, 2006 Lynch et Cross, 1991 ; Bradley, 1996 Azzone et al.. 1991 ; Lockamy, 1998). These indicators then help to pilot the performance of the planification, purchases, procurement, production, delivery, sales (Gunasekaran et al. 2004). From where our second research hypothesis arises as follow: "performance in a logistic chain of the enterprise would influence the creation of the value (added value) and to bring about managerial implications H2." According to the considered procedures, we can talk of internal or external indicators and the later are customer oriented or supplier oriented.

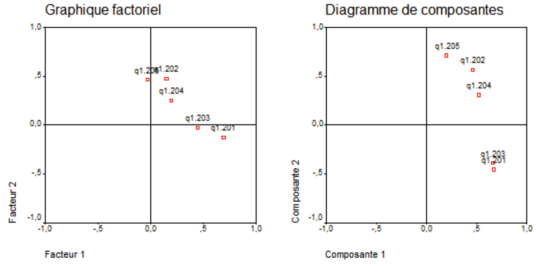
2. THE RELATIONSHIP BETWEEN LOGISITICS CHAIN, ADDED VALUE, INFORMATIONAL ASYMMETRY AND PERFORMANCE: (Investigations and results.)

The objectives in this part is to put in evidence the negative consequences of the absence of information on orders and thus demand in the reverse direction of physical flow for the control and the regularization of production and fabrication activities. All the same it is all about perceiving the performance in a logistic chain in our investigated SMEs, the added value, and managerial implications.

2.1. The informational asymmetry in the reverse direction of physical flow and the performance of logistic chains in an enterprise

The manufacturers need objective information of sales estimates in order to start the production process so as to avoid the operations on storage. Of which this is not the case. The objective here is to confirm or not the informational barriers in the reverse direction of physical flow, of the details to the producer through the wholesaler and other middle men.

Graphic 1 : Information on physical flows (from upstream to downstream)



q1.201*=Petrol distribution industries ;* ***q1.202****= Agro alimentary industries ;* ***q1.203****= Cement industries ;* ***q1.204****= Biochemical and Brewery industries ;* ***q1.205****= Others.*

It can be noticed that there are sectors of the enterprise concerned (q1.203 et q1.201) in the study. That is to say, the information gathered by the enterprise related to quantity to be distributed, meaning, in relation to demand of which according to our investigation have been obtained thanks to partnership with wholesalers (First Graphic) this is what explains however the proximity with the x-axis (q1.203 et q1.201). Meanwhile in the second graphic all the investigated enterprises are distanced away from the x-axis. What it is explained notably as regards our investigations by the absence of a partnership with retailers on the field.

Thus, the interest of the investigations on the predictions of orders in the reverse direction of physical flows.

Table 3: Predictions of orders in the reverse direction of physical flows

SECTOR	NA	Not at all	A little	average	A lot	TOTAL
Petrol distribution industries		1	2	9		12
Agro alimentary industries		1	1	13	1	16
Cement industries	1		1	2		4
Biochemical and brewery industries			1	2	1	4
Others	1	2	1	14	6	24
Totals	**2**	**4**	**6**	**40**	**8**	**60**
Percentages	**3.3**	**6.7**	**10**	**66.7**	**13.3**	**100**

Internal Source

The investigated enterprises as regards the results gathered regularly manifest the need to make predictions of orders: 66.7% in average, and 13.3% more and more. The agro alimentary and Petrol distribution industries occupy respectively in average 32.5% for the first and 22.5% for the second. Suppliers only have but the orders from which to estimate the market; thus the demand. Finally the producer makes predictions basing on the list of orders, and not on the list of sales which he is not in possession of. Moreover, it is known that a multitude of elements only place orders that do not accurately reflect the demand. And many administrative, financial, logistics, transport constraints deform the initial information when transmitted to the upstream link.

Table 4: Information flow of demand predictions in the reverse direction to upstream.

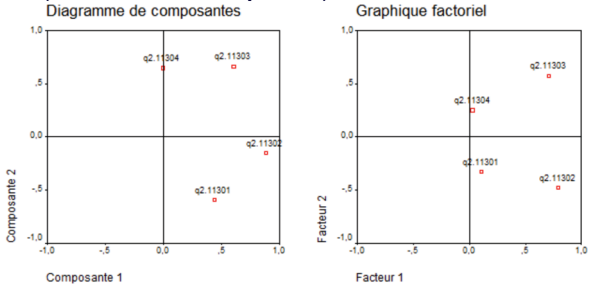
SECTOR	NA	Not at all	A little	average	A lot	TOTAL
Petrol distribution industries	1	6	2	2	1	12
Agroalimentary industries		8	7	1		16
Cements industries		3	1			4
Biochemical and brewery industries		3			1	4
Others(1)	2	22				24
Total	**3**	**42**	**10**	**3**	**2**	**60**
Percentage %	**5**	**70**	**16.7**	**5**	**3.3**	

Internal Source

42% of the investigated enterprises do not raise the information in the reverse direction of the chain; 10% only raise the information from time to time. Two reasons justify this attitude. Firstly the producer would not have confidence in the actors downstream of the logistic chain for many reasons and also by lack of organization.

Secondly, the actors downstream of the chain do not have the interest to be at the service of the producers as they rightly think of being the principal beneficiaries; thus in regards to this conflict of interest it is going to ineluctably become important push stocks to them. Finally, because of this partition and asymmetries the producer is going to make wrong forecasts which confirm the bullwhip effect and also the absence of efficiency and effectiveness of the logistic chain and therefore their performance H1. The first hypothesis of our study is confirmed. The components diagram and the factorial graphic below equally illustrates it.

Graphic 2: Informational flow in the reverse direction of physical flow (from downstream to upstream)



q2.11301*= Petrol distribution industries;* ***q2.11302****= Agro alimentary industries;* ***q2.11303****= Cement industries;* ***q2.11304****= Biochemical and brewery industries*

The return of information in the reverse direction of physical flow for the whole logistic chain (direct, enlarged, global) is confronted by barriers (waterproof walls) which should necessarily be eliminated. Only a single sector is close to the x-axis in the components diagram and zero in the factorial graphic

Table 5 : Relationship between information and performance of logistics chain (CROSS OVER TABLE)

			LOGISTCHAINIC		Total
			Never	Often/Always	
Information	1	Enrollment	25	16	41
		Theoretic enrollment	28,7	12,3	41,0
	2	Enrollment	17	2	19
		Theoretic enrollment	13,3	5,7	19,0
Total		Enrollment	42	18	60

Internal Source

Table 6 : The khi-deux test

	Value	ddl	Asymptomic significance (bilateral)	Exact significance (bilateral)	Exact significance (unilateral)
Khi-deux de Pearson	5,021	1	,025		
Correction for continuity	3,756	1	,053		
Resemblance relationship	5,671	1	,017		
Fisher exact test				,034	,022
Linear by linear association	4,937	1	,026		
Number of valid association	60				

Only to be calculated for a table of 2x2 b 0 cells (,0%) have a theoretical effect below 5, The minimum theoretical effect is 5.70.

Internal Source

The cross over table above brings into relationship the information flow in the reverse direction of physical flow and the Khi-deux test confirms the second time the first hypothesis of our hypothesis to know that the information asymmetry in the reverse direction of physical flow influences the performance of the logistics chain of the enterprise.

2.2. Performance in the logistic chain, value added, and managerial implications

The less we optimize and rationalise the logistic chain, the more the value of distributed products augment. The added value of a product increases when the logistic chain of distribution changes or stretches out, that is to say when we leave from the direct logistic chain to the enlarged or global logistic chain with episode marked by handling, warehousing, transport, and storage. The following results of the final investigations will help us to understand the phenomenon.

Table 7: Performance of logistic chains and added value

SECTOR	NA	Not At All	A Little	Average	A Lot	Total
Petrol distribution industries			4	8		12
Agro alementary industries			4	11	1	16
Cenment industries			4			4
Biochemical and brewery industries			3	1		4
Others(1)	4	5	7	7	1	24
Total	**4**	**5**	**22**	**27**	**2**	**60**
Percentage (%)	**6,7**	**8,3**	**36,7**	**45**	**3,3**	**100**

Internal source

The investigated enterprises reveal clearly that 45% averagely estimate that the efficiency and effectiveness of the logistics chains increase the value of the distributed goods, 3.3% again find it more important the increase in this value; 36.7% relatively; the multiplication of warehouses along the distribution channels is the principal double cause of the cost of transport which appears to magnify this increase. Thus, necessarily has managerial implications. The table below reveals the relationship between the performance of the logistics chains and managerial consequences.

Table 8: Performance of logistic chains and managerial implications

SECTOR	NA	Not At All	A Little	Average	A Lot	Total
Petrol distribution industries			2	8	2	12
Agro alimentary industries	4		4	5	3	16
Cenment industries			1	2	1	4
Biochemical and brewery industries			1	2	1	4
Others(1)	3	9	12			24
Total	**7**	**9**	**20**	**17**	**7**	**60**
Percentage (%)	**11,7**	**15**	**33,3**	**28,3**	**11,7**	

Internal Source

Many investigated enterprises estimate that the efficiency and effectiveness of logistics chains ameliorate the quality of their management ; 33.3% estimate more or less the relative relationship, and 40% estimate more or less the high existence of the link between the performance of the logistic chain and the managerial implications. The performance of a chain necessarily implies the mastery of physical flows from the upstream to the downstream and especially informational in the reverse direction from the physical flows that is to say from the downstream to the upstream. To this effect, the informational barriers linked to the forester effect have to be imperatively eradicated. The demands of customers must climb in the reverse direction of the logistics chain from customers to retailers, from retailers to wholesalers, the later have the duty to repercute them from the producers. This management of the logistics chain is revealed by the real forecast of components to be used and exact quantities to be produced to this effect decreasing the stages of storage and the induced costs.

2.3. Relationship between logistics chain and added value

Table 9 : Cross over table

			Added Value					Total
			NA	Not at all	A little	Average	Completely	
LOGISTICS CHAINS	1	Enrollment	1	3	14	22	1	41
		Theoretic enrollment	2,7	3,4	15,0	18,5	1,4	41,0
	2	Enrollment	3	2	8	5	1	19
		Theoretic enrollment	1,3	1,6	7,0	8,5	,6	19,0
Total		Enrollment	4	5	22	27	2	60

Internal source

Table 10: The khi-deux test

	Valeu	ddl	Symptotic significance (bilateral)
Khi-deux of Pearson	6,324	4	,176
Relationship of ressemblance	6,202	4	,185
Linear by linear relationship	4,031	1	,045
Number of valid observations	60		

Internal Source

At cells 6 (60.0%) have a theoretic enrollment below 5. The minimum theoretic enrollment is 63.

We can notice from the cross over table and the khi - deux test above that the results of our investigations confirm the relationship between the logistics chain and the added value, the fact equally confirms partially the second hypothesis of our study.

2.4. Logistic chain and managerial implications

Table 11 : Cross over table

			Managerial implications					Total
			NA	Not at all	A little	Average	Completely	
Logistics Chain	1	Enrollment	6	4	14	11	6	41
		Theoretic enrollment	4,8	6,2	13,7	11,6	4,8	41,0
	2	Enrollment	1	5	6	6	1	19
		Theoretic enrollment	2,2	2,8	6,3	5,4	2,2	19,0
Total		Enrollment		9	20	17	7	60

Internal Source

Table 12 : The khi-deux test

	Valeu	ddl	Asymptotic Significance (bilateral)
Khi-deux of Pearson	4,457	4	,348
Relationship of ressemblance	4,562	4	,335
Linear by linear relationship	,132	1	,716
Number of valid observations	60		

Internal Source

At cells 5 (50.0%) have a theoretic enrollment below 5. The minimum theoretic enrollment is 2.22

The cross over table and the khi-deux test above have just confirmed again (33.3% estimate more or less relative the relationship of which 35% estimate the existence of the link between the performance of the logistics chain and the managerial implications the relationship between the logistics performance and positive consequences on the management of the enterprise. The second hypothesis H2 of our study is completely confirmed.

3. TOWARDS A NEW MODEL OF MANAGEMENT OF INFORMATIONAL FLOWS; DEMAND IN A REVERSE DIRECTION OF PHYSICAL FLOW.

(The cross docking mobile)

A good number of factors of economic evolution is calling upon enterprises to furnish themselves with performant tools to understand and reduce their procurement and distribution cost, in all guaranteeing an optimal quality of logistics services. Faced with a more and more intense completion and a number of developing intermediaries operating among companies and consumers, the implementation of efficient and reactive systems at the service of consumers have become a priority for industries.

The principal objectives of companies: to assure the satisfaction of consumers by facilitating and accelerating the exchange of information between the producers and the distributors of the same chain, via a system of procurement in elastic flow. To choose an optimal management of procurement in the logistic chain, represent a means to achieve this object. Also the preparation of orders in the warehouse has become a real added value. The optimization of this task leads to a gain of productivity and service amelioration.

3.1 The cross docking

The cross docking is one of the most extended methods in matters concerning procurement management. It is about a logistic technique used especially in transport industries and industries of perishable products. The orders constitute many packages from different suppliers. These packages are disgrouped and regrouped according to their destinations on a platform of selection, ensuring that they do not pass through intermediary channels of storage. These packages are just transiting, instead of warehousing , they are prepared for expedition, this is where the name cross docking come from.

Also, this method of the preparation of orders allow the packages to pass from upstream transport to downstream transport in a very short space of time.

3.2. The cross-docking « Mobile »

The « cross docking mobile » helps to cross on several created platforms of procurement flows from suppliers and delivery flows. Particularly designed for companies of multiple suppliers, this procedure helps to regroup goods per destination and to optimize procurement. The politics of mobile cross docking created consists at the moment of transit overflow and on the cross docking platform to oblige the actors downstream of the chain and the upstream of the reception of packages, the submission of forecasts of the demand. It is an operation of physical flow of information of demand operation in the reverse direction of the physical flow: customers, retailers, wholesalers, and the upstream links of the chain and notably the actors of the distribution downstream of the chain. The dispersion of the delivery thanks to our platforms spread on the whole network helps to reduce the costs related to warehouse, to the transport fares, to the induced added value and especially to the bullwhip effect. To this effect there is an amelioration of performance in the logistics chain. On eliminating the storage stage, the orders in the reverse direction can be treated faster and eliminate the problem of informational asymmetry.

The mobile cross docking is an amelioration but in the reverse direction of the classical cross docking whose technique helps to economise time as the parcels do not pass through the stage of storage. In the case where the storage constitutes a costly operation, the mobile cross docking helps to considerably reduce the cost since the operations of intermediary handlings are cancelled. By eliminating this stage of storage, the mobile cross docking helps to increase the availability and the linear duration of the product life cycle, also the reactivity of treatment of orders. Again, this technique is particularly useful for orders of high priority. It facilitates an important gain on the duration of storage on the whole chain. Favours the reduction of stocks and storage points on the whole supply chain constitutes another advantage of the mobile cross docking. Upstream procurements must be perfectly mastered to guarantee the synchronization of physical flow converging towards the platform, and this should be in the shortest possible deadline. A highly organized company that respects a pricised methodology of tasks at the level of the reception and expedition of products remains necessary. It is equally convenient to assure the possibility of the putting in place the operation at the level of the information system.

CONCLUSION

The investigated enterprises as regards the collected results regularly manifest the need to make forecasts of orders : 66.7%. But 42% of investigated enterprises do not bring up the information to the reverse direction of the chain; only 10% bring up the information from time to time. Two reasons justify this attitude. Firstly the producers would not have confidence in the actors downstream of the logistics chain for many reasons and also for lack of organization. Secondly, actors downstream of the chain do not have the interest to be at the service of the producers who do not think they are wrong to be the principal beneficiaries, which in regards to this conflict of interest will ineluctably become their important push stocks. All the same, the less we optimise and rationalise the logistics chains, the more the value of the distributed products increase. The value of a product increases when the logistics chain of the distribution changes or stretches out. Investigated enterprises clearly reveal that 33.4% estimate averagely that the inefficiency and ineffectiveness of logistics chains increases the value of the distributed goods. This necessarily has managerial implications. In order to decompartmentalise and eliminate these barriers, in order to avoid all informational asymmetries, the consequences indicated on the counter performance of logistics chains, on the added value, managerial implications, we propose in this article a new model of the management of the informational flow of orders in the reverse direction of physical flow, that is to say, the mobile cross docking.

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