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MANAGING INTANGIBLE INFLOWS IN LOGISTICS

Abstract. *In the article the authors analyze the role of project management in logistics. Logistic flows are considered from the point of view of project management and special attention is paid to information logistics. It is shown what function information logistics provides in relation to material and financial logistics, how it conveys information that accompanies the movement of material and financial resources, and thus operates with counter-directed flows and unidirectional flows. It is shown that the management of the intangible (information) stream can be carried out by changing the direction of the stream, limiting the transmission rate to the corresponding speed. In addition, project management in logistics represents the application of concepts and methods of project management in the process of creating / transforming logistics systems. Particular attention is paid to intangible flows: financial, informational and services. In particular the object of information logistics – the information flow, which, in turn, is an intangible one is identified. The place of project management in managing information flows of logistics is pointed out and its significance is highlighted. The authors assume that there are various types of projects in logistics – in particular functional ones, as well as projects which effectiveness is determined by qualitative indicators. There is also respect for such aspects in the management of IT projects of logical processes as well as the analysis of international standards, the recognition of organizational competencies, the ability to model the development of logistic projects. Yak straightforward furthest development of the logistic is proprietary, hinge combining the project management model with the logical processes, yak can include the decile of the technological process company in the project management gallery. In the model, the main values are also identified, which are inherent in the skin area of technological maturity.*

Keywords: Keywords: project management; functional project; logistics; intangible flows; financial logistics; information logistics; service logistics; project logistics management

Introduction

In the recent years project management has been widely applied to logistics. Sometimes we can come across such a term as project logistics. Thus, these projects can be viewed from a variety of prospects, mainly of: different scales (the actual project, the megaproject as a target integrated program, a system as part of the economic mechanism), branch affiliation (fossil fuels development projects in mining or secondary industries, construction projects, reconstruction ones), functional role (innovation, educational, marketing and social projects), situation implication (emergency, reengineering, anti-crisis projects). In this case, in the interests of further development of logistics in economic practices it is obligatory to identify and properly position logistics projects, namely, projects focusing on the introduction of logistics and the setting of logistics management, being deeply convinced that its place is considerably justified among the projects with a functional role.

Main material

It is quite important to pay a special attention to the object of intangible resources logistics management. These are flows of resources that do not have a material substance: financial, informational and service. Accordingly, scientists identify financial, informational and service logistics. Now we shall analyze them.

Financial logistics

Financial logistics performs a role of a financial flow accompanying material flows, specifically – the input flow of material resources and the output stream of finished products, as well as flows of waste products. Thus, it provides execution of settlements in commodity-money operations, and, therefore, the managed flows of financial resources are counter-directed to the movement of material ones. Regarding the work flow in progress, financial logistics has a hidden effect, since it only reflects the accumulation of costs in production.

Information logistics

Information logistics provides a function role in material and financial logistics. It transmits information that accompanies the movement of material and financial resources, at the same time it operates both counter-directed flows, such as supply requests, and undirected ones, such as shipping documents [1].

Information logistics organizes the intangible flow (flow of data) that accompanies the material flow, and it is the essential link for the enterprise that connects supply, production and sales. One of the key concepts of logistics is the notion of information flow.

In general, the information stream is the movement in some medium of the data expressed in a structured form.

Concerning logistics, the information flow is a collection of circulating in the logistics system messages, which circulate between the logistics system and the external environment, that is necessary for the management and control of logistics operations.

The relationship between tangible and intangible (informational) flows is evident, but the relevance of one stream to another is conditional. As a matter of fact, the content of the material flow, as a rule, reflects the data of non-material (informational) one, but concerning time parameters they do not have to coincide. Tangible and intangible (material and non-material) information flows can be both one-purpose driven and multi-purpose driven ones [2].

The way the intangible flow moves, in the general case, does not necessarily coincide with the route of movement of the tangible flow.

The intangible (informational) flow is measured by the amount of processed or transmitted information per unit of time. The information flow is based on the movement of paper or electronic documents [3]. Correspondingly, it can be measured either by quantitatively processed and transmitted units of paper documents or by the total number of document orders in these documents, or the amount of information (bit) contained in a particular message.

The information flow is characterized by the following parameters:

– source of origin;
– flow direction;
– periodicity;
– kind of existence;
– speed of transmission and reception;
– intensity of flow, etc.

Managing intangible (informational) flow can be executed as follows:

– changing the flow direction;
– restricting the transfer rate to the appropriate reception speed;
– limiting the amount of flow to the capacity of the individual node or path area.

Information logistics performs a similar function to services logistics, for example, when preparing the supply of "goods with reinforcements". At the same time, services logistics itself serves as some kind of support to material logistics and is synchronized with it in the mode of provision of production services, including pre- and post-sale services. The possibilities and opportunities of connecting the service flow with the material one enable to refer the production services as to material services, although from the physical point of view they are not.

Application of logistics in the implementation of comprehensive targeted measures has provided the basis for the development of project logistics [4].

The potential opportunities of implementing project management in logistics are determined by the existence of a variety of flow processes that require management. This, in turn, is due to the fact that the implementation of the project is supported by various types of provision, including not only material security, but also:

– *financial* – search of sources and attraction of investments;
– *personnel* – selection of "teams", delegating responsibilities and placement of personnel, dismissal;
– *information* – accumulating, summarizing and upgrading information according to different work stages and types of project provision;
– *legal* – legal support of the project.

Project logistics, being aimed at increasing the effectiveness and efficiency of project management, becomes its integral part and deals directly with management of resources flows.

The most important tasks of project management in logistics are:

– identifying the strategy and technology of physical distribution of resources in project work;
– forecasting volumes of deliveries, transportation and warehousing;
– optimizing technical and technological structures of transport and warehouse complexes, etc.

Managing these processes on the basis of logistics is reflected in such a concept as ***"project logistics management",*** which is determined by specialists, as a systemically organized process of management not only of investment and material flows, but also the project financial, information and services flows, implemented in a sequence of stages of the work life cycle in accordance with the rules of logistics through the construction of logistic chains.

Project management in logistics, in turn, is the application of the concept and methods of project management in the process of creating / transforming logistics systems, as well as finding solutions to the tasks of logistics systems functioning.

Project management is carried out by a team of specialists from certain organizations. These organizations arrange and select their staff choosing specialists who manage project personnel (or project teams). In turn, project teams develop project proposals (applications), including a plan of action, as well as carry out all necessary activities within the framework of projects, monitor their implementation and evaluate their outcomes and findings.

It is also extremely important that target groups and clients should be actively involved in the project activity and have the opportunity to invest their time, energy and resources in designing and implementing the project. This approach is especially important because target groups and clients actually trust in solving their problems, and they are supposed to be absolutely confident that through joint efforts, projects will allow them to multiply and enhance their own strengths and opportunities, and at the same time help eliminate weaknesses and solve their problems.

Project management is undeniably viewed as one of the most important competencies that members of the project management team are supposed to possess. Despite a great variety of differences between industries that implement their activities through various projects, the problems they share, however, are similar and they relate to the following areas:

– completing the project in accordance with the schedule, within the budget framework, with the proper quality, to the necessary extent, taking into account all risks and benefits;

– developing detailed project plans and their tracking throughout the project implementation period;

– managing projects carried out and implemented by contractors, subcontractors and suppliers;

– identifying potential risks, determining processes that avoid risks and ensure the achievement of project goals.

Some unique characteristics of projects which mainly deal with intangible flows can be described as follows:

– projects of non-financial flows are less targeted at a particular product, but rather consider this process as a means of reducing time;

– projects of non-material (intangible) flows are carried out exclusively in the problem environment (in the conditions of resource constraints, high risks, complex supply networks, unstable political situation and other dangerous conditions);

– project management is often carried out by a group of stakeholders who sometimes have a rather complicated network of relationships (partner agencies, government agencies, public organizations, contractors, world consortia);

– the approaches and methods used in the course of the project are often as important as the results (including priorities such as a degree of participation, advocacy);

– accumulating and transferring knowledge and training target population groups are a priority at all stages of the implementation of non-profit projects.

It is obvious that the purpose of projects working with intangible flows of logistics or another direction should be set accurately and in detail, permitting only an unambiguous answer: whether it has been achieved or not (the goal cannot be "partially achieved") – and from this perspective, the project efficiency can be easily assessed without any particular difficulties: if the purpose of the project is achieved, then it is effective and efficient, otherwise it is ineffective and fruitless.

Whatever it is, one should not forget that each goal can be achieved in different ways. Therefore, a comparative assessment of the project effectiveness and efficiency becomes an issue of the current concern because it is primarily aimed at achieving the same goal.

Expert assessment in achieving the goal for a project does not necessarily include financial evaluations. Parameters of the project implementation method can be evaluated in accordance with different criteria, for example: the goal must be achieved in a way that is least traumatic in terms of changing the real purchasing power of the population; or: project implementation should not affect the religious feelings of devoted people (as an example).

Among the criteria of assessing efficiency, we can point out a financial one: the goal supposed to be achieved in the least costly way. We would also like to emphasize the fundamental difference: for a commercial project, it is quite significant to assess the project efficiency with the help of financial indicators in order to understand whether it is necessary to implement the project or not. Concerning a project with intangible

flows, such a question no longer arises – the goal of the project is definitely supposed to be achieved under no means; and the only question is to clearly understand what way is to be the best one.

If the project can be implemented in different ways, the priority of "non-financial" criteria is equally satisfied, the project can be evaluated from the point of view of its "profitability".

The overall purpose of logistics, as it is well known, is to create an efficient system of managing material, financial, information, service and other flows.

At the same time the conceptual idea of logistics lies in achieving the lowest possible expenses under the conditions when an enterprise has to adjust to the ever-changing market environment, when it is aimed at business expansion, achieving economies of scale and obtaining a competitive advantage [5]. Thus, the concept of project management in logistics defines change management in logistics systems and applies the concepts of projects of any type.

Conclusion

Consequently, we can see that the system of managing a logistics project consists of several sub-projects, which create well accepted project management processes and form the right understanding of the structure of the project management space, enabling to allocate new management areas as facilities depending on the goals and suggested tasks, including those ones which are closely connected with tasks of managing intangible flows.

In addition, owing to intangible flows a created database allows you to store various information about the most diverse carriers and their technical capabilities. Moreover, that is all the information a forwarding agent is supposed to be aware of in order to organize shipment; make a variety of reports; quickly search the necessary information. Other examples of the implementation of non-material flows of logistics are: the formation of electronic form of documents and their transfer; acceptance of orders and offers from suppliers, order management, their processing, coordination, execution of documents; creation of various programs of local and online access for automation of calculations of cargo transportation, tariffs, customs procedures, etc. If in the real world logistics significantly contributes to the optimization (savings) of material costs related to certain activities (e.g. choosing the most appropriate and acceptable means of transporting cargoes), in the virtual world project management of intangible flows provides time-saving benefits and efficient allocation of time – the most precious resources for any business.

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УПРАВЛІННЯ НЕМАТЕРІАЛЬНИМИ ПОТОКАМИ В ЛОГІСТИЦІ

Анотація. *Проаналізовано роль управління проєктами в логістиці. Розглянуто з точки зору управління проєктами логістичні потоки і приділено окрему увагу інформаційній логістиці. Показано, яку функцію інформаційна логістика забезпечує по відношенню до матеріальної і фінансової логістики, яким чином вона передає інформацію, яка супроводжує рух матеріальних і фінансових ресурсів, чим при цьому оперує – і зустрічно спрямованими потоками, і односпрямованими потоками. Показано, що управління нематеріальним (інформаційним) потоком можна здійснювати, змінюючи напрямок потоку, обмежуючи швидкість передачі до відповідної швидкості. Окрім того, управління проєктами в логістиці представляє застосування концепцій і методів управління проєктами в процесі створення / перетворення логістичних систем. Особлива увага приділяється нематеріальним потокам: фінансовим, інформаційним і сервісним. Зокрема об'єкт інформаційної логістики – інформаційний потік, який, в свою чергу, є нематеріальним. Зазначено місце управління проєктом в управлінні інформаційними потоками логістики і підкреслено його значення. Автори припускають, що існують різні типи проєктів в логістиці – зокрема, функціональні, а також проєкти, ефективність яких визначається якісними показниками. Також приділена увага таким аспектам в управлінні IT-проєктами логістичних процесів, як аналіз міжнародних стандартів, визначення організаційної та індивідуальної компетенції, можливість моделювання розвитку організаційно-індивідуальних компетенцій проєкту логістичних процесів. Як напрям подальшого розвитку логістики запропоновано створювати комбіновану модель управління проєктів логістичними процесами, які може включати декілька рівнів технологічної зрілості компаній в галузі управління проєктами. В моделі також визначаються основні цінності, що притаманні кожному рівню технологічної зрілості.*

Ключові слова: управління проєктами; функціональний проєкт; логістика; нематеріальні потоки; фінансова логістика; інформаційна логістика; сервісна логістика; управління проєктною логістикою

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