CROSS-FUNCTIONAL INTEGRATION AT AGRIBUSINESS BRAZILIAN ORGANIZATIONS

Lorena Luiza Ribeiro (https://orcid.org/0000-0002-9208-5616)[1]
Stefania Ferreira Silva (https://orcid.org/0000-0003-3154-4257)[1*]
Marcio Lopes Pimenta (https://orcid.org/0000-0003-3899-3274)[1]

1 Federal University of Uberlândia, 38400902, Uberlândia-MG, Brazil

* stefania.ferreira@yahoo.com.br

ABSTRACT

Purpose: This study aims to analyze how the integration between functions can be characterized in a context which one of the functions is outsourced. Four organizations were surveyed as the subject of the study; a multinational industry of agricultural inputs, an agricultural cooperative and two logistics companies outsourced by the multinational and the cooperative.

Methodology/Approach: A multicase study was conducted. Data collection was done through interviews and personal observation, setting up a qualitative approach.

Findings: Six categories and their properties were identified for each organization: contact points, requirements, culture, conflict, control and flexibility, and integration factors.

Research Limitation/implication: The main limitation of the research lies in the analysis of a single sector, the logistics area. In addition, the contractual relationships are both an agribusiness company with a carrier.

Originality/Value of paper: The research findings are innovative for the study of the integration between internal and external functions between a main company with outsourced companies.

KEYWORD: performance; process; outsourcing; organizational; risks.

INTEGRAÇÃO INTERFUNCIONAL EM ORGANIZAÇÕES BRASILEIRAS DO AGRONEGÓCIO

RESUMO

Objetivo: O presente artigo tem como objetivo analisar como ocorre a integração entre funções de empresas inseridas num contexto onde uma das funções é terceirizada. Foram conduzidos estudos de caso em quatro organizações, sendo uma multinacional do setor de insumos agrícolas, uma cooperativa agropecuária e duas empresas terceirizadas responsáveis pela logística das empresas.

Metodologia: O estudo utiliza uma abordagem qualitativa, com a realização de entrevistas e observação pessoal. Foram realizadas entrevistas em profundidade com profissionais das organizações.

Achados: Por meio da análise de conteúdo foi possível identificar seis categorias em que a integração ocorre: pontos de contato, exigências, cultura, conflitos, controle e flexibilidade, bem como os fatores de integração das organizações.

Limitações da pesquisa: A principal limitação da pesquisa se encontra na análise de um único setor, a area de logística. Além disso, as relações contratuais são ambas de empresa de agronegócio com uma transportadora.

Originalidade: As conclusões da pesquisa são inovadoras para o estudo da integração entre funções internas e externas entre uma empresa principal com empresas terceirizadas.

PALAVRAS CHAVE: desempenho; processo; terceirização; organizacional; riscos.

1. INTRODUCTION

The integration between organizational functions is a broad discussion in the literature, but hardly transformed into an organizational reality. At the same time, the actuation of various functions together approaches the departments, this same action can generate conflicts that make integration difficult (Buss & Cunha, 2001; Hammer, 2002). This approximation is made through interaction and collaboration, so that the former is a formal process and the latter informal, according to Kahn (1996).

The benefits of this integrative process, whether external or internal, through interaction or collaboration, contribute to product development (Kahn, 1996; Buss, 2002; Garcia; Sanzo; Trespalacios, 2008; Jugend, et al, 2013; Bertan et al, 2016; Gonzalez-Zapatero et al, 2017; Ganji et al, 2018), as well as innovation (Jugend et al, 2018; Hausberg, 2019). Conflict reduction and organizational performance improvement (Pimenta et al. 2016) and at a human resources perspective (Thongpapanl et al, 2018).

Stank, Daugherty and Ellinger (1999) point out that the performance of the organization as a whole, among other factors, is strongly linked to the way in which cross-functional integration is managed. Integration is necessary between departments and organizations, suppliers and customers (Hehenberger et al., 2016). In some situations, the strategy of integrating people conflicts with the choice to outsource some activities. Thus, this conflict is described in some studies as a process of disintegration (Rezende et al. 1997; Mahnke 2001).

Rezende (1997) says that both processes can occur simultaneously to establish true alliances, so the outsourced company is part of the organizational design of the "parent company". Managing the outsourcing relationship is critical, as an extension of the company's operations, as a result of mutual dependency (Baraldi, Proença, Proença & De Castro, 2014). In addition, Leão, Nunes, de Carvalho Neto & da Cruz (2014) points out that it is necessary to have an intentional, planned and consolidated action by the contractor over the contractor involving people management practices.

The integration-outsourcing is discussed as two companies' strategies focused on competitive advantage (Rezende, 1997; Queiroz & Queiroz, 2006; Federico, 2010). Some authors try to find balance between the two strategies (Hork, 1998; Grossman & Helpman, 2001; Rothaermel, Hitt & Jobe, 2006). This relationship can positively and negatively impact the organization dynamic capabilities (Mahnke, 2001; Rothaermel, Hitt & Jobe, 2006; Guimarães & Carvalho, 2012), affect cost reduction (Lockamy III and McCormack, 2010), internal needs improvement and reaction to volume changes (Guimarães and Carvalho, 2012), scope, speed, and switching costs (Mahnke, 2001), portfolio enrichment and increased competitive advantage (Rothaermel, Hitt & Jobe, 2006).

Some negative factors are cited when there is no integration: loss of flexibility, communication problems, reputation loss, hidden costs, rotation and quality problems, service discontinuity, cultural differences, supplier dependence (Guimarães & Carvalho, 2012), working conditions comparisons between contracting and outsourced company (Grossman & Helpman, 2001). Anderson and Parker (2002) outline three tools for managing this relationship: service management, organizational theories and engineering projects. Hoek (2008) studies the outsourcing and subcontracting integration business model based on the supply chain through information flow.

As can be seen, there is a large literature base for the discussion of interfunctional integration (Kahn, 1996; Numagami, 1998; Buss, 2002; Pagell, 2004; Kusunoki & Perks, 2007; Chen, 2015; Pimenta, 2016). However, there is a lack of studies which explains how interdepartmental integration can occur between a company with outsourced functions. Thus, the motivation for this research is defined with the study question: how does the integration of internal and external organizational functions occurs in a scenario of outsourcing services that complement internal operational processes?

Based on that, our objective is to understand the cross-functional integration between four companies inserted in a context of logistics operations outsourcing. The outcome is to understand the integration elements present into the outsource relationship of the companies selected. The article presents a brief introduction, a literature review section, the materials and methods, followed by the results found after the interviews and the final section with our conclusions.

2. LITERATURE REVIEW

2.1 Cross-functional integration

Organizations have specialized in their roles over the years to increase productivity. However, many have forgotten to consider that, for better overall performance, it is necessary for the entire organization to work together (Coelho, Follmann & Rodriguez, 2008). This state of cooperation between functions focused on the same goals, in which one function assists another moving towards a cohesive organization, is called inter-functional integration (Kahn & Mentzer, 1998; Pimenta et al., 2011; Turkulainen et al., 2017; Pimenta, 2019).

Kahn and Mentzer (1998) emphasize the relevance of cross-functional integration by showing in their studies that a function working in isolation will be unable to meet business objectives as a whole, as well as organizations that prioritize team integration alone, as this integration can be temporary, lasting only during the project (Kahn, 1996). Therefore, the author proposes that cross-functional collaboration is more comprehensive and should have priority. Buss and Cunha (2001) state that interfunctional integration is a difficult goal to be achieved, since if the performance of several functions together bring them closer together, and point towards greater integration, this same action can generate conflicts that make integration difficult.

The difficulty of implementing cross-functional integration may be due to the historical tendency of each function to be concerned only with its own objectives, regardless of the general context in which the company operates. And even when integration is already in place, if it is not properly managed, departments can cultivate individualistic behaviors if the objectives are conflicting (Pimenta; Silva; Yokoyama, 2010; Pimenta et al., 2011). In addition, according to Pimenta, Silva and Yokoyama (2011), mismanagement of this integration may result in problems in the final value offered to the customer and even in excessive costs, or problems in launching new products on the market.

By analyzing the literature, it is clear that most studies focus on the context of new product development (Kahn, 1996; Kahn & Mentzer, 1998; Buss 2002; Piaz, 2006; Chen, Daugherty, Roath, 2009; Jugend, et al., 2013; Bertan et al, 2016; Gonzalez-Zapatero et al., 2017; Ganji et al., 2018). Besides these, there are studies on integration that specifically aim to characterize the relations between this theme and outsourcing processes, which is the theme of this work (Rezende, 1997; Grossman & Helpman, 2001; Queiroz and Queiroz, 2006).

2.2 Implications of outsourcing on cross-functional integration

Outsourcing is conceptualized as a way for the company to focus its efforts on its competencies that are directly linked to its business, passing on some activities to third parties who will thereafter be partners for the strategic objectives of obtaining competitive advantage (Campbell, 1995; Giosa, 1997; Fleury & Fleury, 2003). Still in this perspective, Holcomb and Hitt (2007) define that outsourcing refers to agreements signed when companies rely on intermediate markets to assist in some function.

Outsourcing is a modern technique that companies use in the management process. According to Nazário and Abrahão (2002), companies' contract via services other companies that are qualified to develop activities that do not fit the company's internal process, or that are not a priority for the company. This outsourcing process results in a change in the company's structure, as

well as its own culture. Outsourcing permeates all sectors of the economy, and is characterized as a common practice in both public and private organizations (Assaf, 2011), and especially in the latter, is a procedure used to build a competitive differential (Carvalho, Barboza & Gonçalves, 2006).

Outsourcing and integration, therefore, are seen as problem-solving strategies in the organizational environment (Rezende, 1997). These strategies impact each other when the organization chooses both at the same time, creating a parallel for many authors as they view outsourcing as a process of disintegration (Rezende et al., 1997; Mahnke, 2001).

Although the outsourcing process is seen as a way of disintegrating the organization (Rezende et al. 1997; Mahnke, 2001), outsourcing and integration are not necessarily mutually exclusive, since they can occur simultaneously without a common sense. may be an exclusion factor of the other according to Rezende et al. (1997). But for this relationship to occur without conflict, producing good results, some issues must be properly managed for such as: quality, delivery time, reliability, flexibility and cost analysis (Queiroz & Queiroz, 2006).

The outsourcing process can generate internal resistance, since when considered as a disintegration it will be messing with people, functions, power space, career planning and others (Rezende, 1997). This disintegration is due to the fact that the organization focuses on the end activity, making third parties responsible for intermediate activities, as these are more specialized (Alvarez et.al 2007).

Through operational tools, service management, organizational theories and engineering projects must be created and implemented within the organizational system so that integration happens effectively independent of outsourcing decisions (Anderson & Parker, 2002). If this relationship is not properly managed, the disintegrating effects of outsourcing can be reflected in the long-term capabilities of the company.

Some risks identified by the authors Guimarães and Carvalho (2012, p. 1181) in the literature are: loss of control and flexibility, supplier dependency, communication issues, loss of reputation, exposure to compliance breach, "hidden" costs, issues rotation and quality, discontinuity / inconsistency of service, cultural differences". These relationships at work can also be threatened, according to Grossman and Helpman (2002), when outsourced workers make comparisons of the working conditions of the parent company's employees, which could lead them to have a low level of commitment.

By contrast, if outsourcing and integration are well managed simultaneously can provide new and productive conditions for the organization; Integrating the flow of goods, information, processes, even when outsourcing is used by the organization, can lead to the creation of new products and services, enriching a company's successful product portfolio, and in turn contributes to competitive advantage, furthermore develops new approaches to marketing and operations (Van Hoek, 1998; Rothaermel, Hitt & Jobe, 2006).

3. MATERIAL AND METHODS

The case study was centered around four organizations: a multinational agro-industry, an agricultural cooperative, and two carriers. The organizations were chosen because they are inserted in an outsourcing scenario in which it is possible to analyze the integration of the outsourced area with internal areas, understanding which factors are linked to this integration.

Conducting this case study with in-depth interviews may enable to analyze the professional's inside the organizations perception about how the integration between the companies' functions occurs and identify organizational impacts and integration factors that may be present in the functions involved with the logistics sector.

The table 1 below presents each company, and their respective sectors, the region in which they are located, and the size of each.

Table 1: Companies surveyed

Name	Sector	Region	Size	N° of respondents
Organization 1	Multinational agricultural inputs industry	Triângulo Mineiro/MG	Large	3
Organization 2	Transport and harvest	Triângulo Mineiro/MG	Medium	4
Organization 3	Agricultural cooperative	Alto Paranaíba/MG	Small	3
Organization 4	Transport	Alto Paranaíba/MG	Small	1

Source: Prepared by the authors

Organization 1 outsources the transport and harvesting work of organization 2 and organization 3 outsources the transport of organization 4, so it can be seen that the outsourced area in both situations is logistics, and the difference is that one of the Working relationships are large and medium-sized, while cooperative and organization 4 are small.

In-depth interviews were conducted with 11 professionals from the supply chain, commercial area, production and logistics areas. Table 2 below presents the roles of the 11 respondents, which organization they represent, and the code that will be used to mention each respondent throughout the article.

Table 2: Respondent roles and codes

Organization	Function / Position	CÓD.
1	Storage Surveyor	SA1
1	Production supervisor	SP1
1	Trade Representative	RC1
2	Programming Manager	GP2
2	Machine Maintenance Manager	GMM2
2	Vehicle Maintenance Manager	GMV2
2	Administrative Assistant	AD2
3	Coffee Trade Director	DCC3
3	Coffee Trade Supervisor	SCC3
3	Human resources manager	GRH3
4	Transportation Director	DT4

Source: Prepared by the authors.

Content analysis was performed following the footsteps of Bardin (1977), so that firstly a pre-analysis of the transcripts of the audio recorded interviews, as well as the reading of the material, was made so that the textual analysis would be facilitated. Later the material was explored, to identify the categories and meanings of each one, while observing the context of the conversation of each interviewee.

4. RESULTS

From the content analysis, we obtained the categories that help in the interpretation of how the integration of outsourced logistics activities with the internal functions of organizations occurs, based on the cross-functional integration theory: contact points, conflicts, requirements, culture, control and flexibility, and integration factors.

Table 3 below summarizes the total incidence of each category on organizations 1 and 2 together, and on organizations 3 and 4. By analyzing the table, it is possible to notice that the factors that generate integration form the category that has the highest incidence among organizations in both relationships. It can also be seen that organizations 3 and 4 have not demonstrated any practice that facilitates control between them, so this can be a better managed factor in both.

Organizations 1 and 2 have more touch points than the other list of organizations, and this may be directly linked to the greater number of integration factors identified, as the more touch points the more integration is required. Similarly, more contact points can lead to more conflicts, and this may explain the big difference between organizations, because while organizations 1 and 2 explicitly cited conflicts 7 times, in other organizations, 3 and 4, these categories were cited 2 times.

Table 3: Incidence of categories

Categories	Definition	Total incidence	Org 1 e 2	Org 3 e 4
Integration Factors	Factors that promote integration between organizational functions	60	47	13
Requirements	Requirements of one organization in relation to another in the outsourcing contract	12	9	3
Contact Points	Points (activities, roles, people, etc.) that promote contact between organizations	11	9	2
Conflicts	Factors that generate conflicts between the functions of organizations, examples of conflicts and conflict reduction strategies.	9	7	2
Culture	Cultural factors that influence or hinder integration between organizational functions	8	6	2
Control and flexibility	Ways to control and / or generate flexibility from one organization function to another	6	6	0

Source: Prepared by the authors.

The point of contact is the activities that link one function / company to another, ie the points that need a high level of integration. The point of contact between these organizations is the hiring by organization 1 for the transportation and collection services of organization 2 as described below by the Programming Manager of organization 2 (GP2).

> The link between organization 2 as a service company and organization 1 as a client company is the transportation area, where we transport all the material from the field to the mill and where we also harvest this corn [...]. (GP2)

The transportation of the product from the field to the mill has been done by organization 2 for a long time, but recently they are providing finished product transportation services to the distribution centers, as explained by the production supervisor of organization 1 (SP1).

> She came in now, right?! In this finished product work [...] organization 2 is our exclusive supplier of hauling material, so she is responsible for both the harvest and the field transport until he gets here at the warehouse. (SP1)

In this harvesting and transportation process two other points of contact happen; when organization 1 requests from the carrier preventive or corrective maintenance of machinery and also of vehicles, as noted in the following statement by the carrier's Maintenance Manager (GMM2).

> As soon as the machine arrives here [...] we already wash, provide these repairs, disassemble everything that needs to be disassembled, replace the parts you need and put everything back, then it is ready for the next crop, then again those parts that left you look if they are already here and replace them all, in case you need a corrective maintenance in the field you already have that stock ready for you in a stop the process [...] they start and say: "the train here it is broken, what time you will spend [...] but usually they will follow what is happening. (GMM2)

Many conflicts can occur during the execution of these activities that link the functions of both organizations, which were highlighted by the interviewees are problems with programming, errors in order release and lack of understanding of the work of the other function / company, which can lead to delays, and often, loss of product quality, whether it is harvesting or transporting a product, or customer discontent, as noted in the statements below.

> [...] In the old days, sometimes it would start to reap, the machine would break, the repair would sometimes take a while, sometimes the truck would not be too young, but it would come here more than 24 hours late. [...] There is a very important factor that this product that we harvest in the field and that we have to bring to the mill requires a predetermined time for this corn to arrive at the mill, which cannot exceed 18 hours. (GP2)

The consequent loss of quality with delays is highlighted below in the testimony of the Production Supervisor of organization 1 (SP1).

> As the transportation of material on the cob is very sensitive, if we take too long to transport, we may have a serious quality problem. (SP1)

Problems generated by release errors are evidenced by Organization Storage Supervisor 1 (SA1) below.

> Although you have definite flows, definite procedures, you can often have an error releasing the order, it may be that, let's assume ... the commercial area releases me an order for an error, I end up delivering an order and get there the client refuses, because it was not to be now, or had not asked yet [...] we try to minimize doing some very close follow-ups, so there are daily reports that we release to follow the order that is "stopped" by more than 4 days, for more than 5 days, for more than 6 days. (SA1)

This error in order release reflects conflicting for both the commercial area and the third-party logistics company, as it will generate rework by having to unload and then reload the delivery and transport it. In addition, this error may compromise the company's image vis-à-vis the end customer and may lead to a cancellation request, as explained by the organization's Sales Representative 1 (RC1).

> As we work with seed, and seed is a business that you need it in a timely manner to plant, it has a planting window is not simply [...] delivering when you want to deliver, so any problems that occurs in any part of this logistics chain there directly influences the commercialization and our client. It can even be the case of canceling product sales, canceling purchase line, right [...] (RC1)

The lack of understanding about the work of the other function, whether internal or outsourced, is another factor that generates conflict, according to respondent SA1, as highlighted below.

> Here we can have ... the guy calls me now and says: he has urgent care, he is a priority under anything, can you get a truck today? So I mean, it's 4pm, I'm already with my goal closed. [...] It's okay. So, I will disturb the warehouse, I will disturb the carrier that "is" looking for another vehicle to another place, so many times I will not be able to do that in the team that the guy needs [...] So this can damage the image third parties who are here, thinking that it is for him, but even lack of understanding of the flow itself. But if you're going to talk to the commercial guy, what will he say to the customer? "The logistics guy in a" ok "can handle meeting. (SA1)

In order to prevent all these conflicts between internal and outsourced functions, the carrier seeks to make the largest number of vehicles available, as the interviewee GMV2 explains, but it is necessary to analyze whether the costs incurred to reduce these conflicts.

> We try to leave the maximum available vehicles for him (the customer), so that it will not impact this programming that the customer ... this situation of removing loads from the field, right?! Maintain vehicle without impacting customer loading schedule. (GMV2)

Two other categories are requirements and culture, and can be analyzed together, because in these organizations, 1 and 2, it is possible to see that some requirements of organization 1 towards organization 2 are directly related to the culture of the organization. The requirements relate to what the contractor expects from carriers in order to facilitate the third party's integration process with internal functions, and culture refers to the cultural aspects that contribute to integration.

Properties within the highlighted requirements category are: safety, scheduling compliance, common tracking, respect for the environment, and differentiation and quality of service provided. The properties related to culture are: the fact that the service provider seeks to fit more into the contractor's culture, the principles of safety passed whenever possible, and training as a mechanism to reduce cultural difference.

It can be understood that these categories are related to the fact that, for example, security requirements are justified by the fact that organization 1 has some aspects based on a North American culture, such as the defense for the safety of everyone involved in the company. As the interviewee explains GP2.

> Both in the field where the harvest service is done and here in the reception of the product, in the receipt of the product, the primary for organization 1 is safety. [...] High performance equipment, equipment that offers safety, new trucks that offer security to come and go. (GP2)

Another issue identified is that it has been cited several times that the service provider seeks more to fit into the contractor's culture than the contrary, as respondents GP2 and GMV2 state. And it has to do with meeting the requirements as well.

> This is so much more that we need to fit into the customer culture. The customer comes from an American culture that adheres to high safety standards and they strive for the organization, the commitment. [...] And so we can work, develop our work and meet them that way we need to understand that too and bring this philosophy into them right here, security issue. (GP2)

> What helps that there is no difference is precisely because we are suppliers and he is the client, we are the ones that fit them, so I think there is no problem of difference there precisely because of that, we try to serve them in the best possible way, and if they dictate a rule we try to enter that rule they dictate. [...] So, the culture is very different. Huh?! But we fit it. (GMV2)

In order to pass these principles, respondent SP1 points out that all functions, whether internal or external, receive the same training, making the external function the same as internal training, facilitating integration and being a mechanism to reduce cultural difference.

> We have a security integration that is standard, so any permanent employee or third party gets this kind of training. [...] I speak a lot of security, because organization 1 experiences a lot of security, it preaches a lot is ... a safe working environment for anyone independent of the company [...] (SP1)

Control exercised or flexibility exercised is an important category driving the integration of an external function with internal functions. Organization 1 establishes KPIs to measure outsourced work as it does for external functions, and is still concerned with providing feedback at the end of each season, but what really ensures this integration is that the internal functions of supply chain, and production also receive feedback from the third party. As explained in the statements by interviewee GMM2 and the organization's Administrative Assistant 2 (AD2).

> And then in their feedback there is always something like ... a restructuring, a project presentation, what we are going to do, what we did good, what we did negative. Understood? Then after the harvest, as they present the positive points again, then they also point out new negative points when there is, so they always give us the feedback if we improved or not. (GMM2)

> They also get our feedback, right ... Although we are a supplier, we also give them points that we think they can improve. (AD2)

The functionality of KPIs to ensure this good working relationship is explained by respondent SP1 below.

> [...] we have well-defined KPIs so when we feel that something is getting out of our control, then we try to get the corporate leaders to show us the point, and then we get a quick decision, so as the most important thing in this The point here for me is to tie well when we draw the contract. Because from there having the KPIs, points that we can measure the activities, we will hardly have any divergence. (SP1)

The carrier (organization 2) has been providing services to organization 1 for a decade, according to respondent GP2, and this helps people in both companies' roles understand each other's attitudes and values. The longevity of relationships between organizations is also a factor that triggers a higher level of trust, or at least understanding when a problem occurs in the process, as the following managers explain.

> [...] the trust she has within the partnership that the group has, between the two companies, is .. but obviously, is ... each defends its square. Huh?! Obviously just as we are charged here by the director of the company, they are charged there by their directors there as well. But if, thus, if our group fails, say, they will not be complacent with us of ... putting warm cloth on top of the situation, obviously they call, talk, show, point out the fault, but the penalty she .. she fulfills herself. [...] So much so that there is an evaluation of organization 1 towards us and it is scored. And this score leads to some punishments. (GMV2)

> [...] They understand that the breakdown of the machine was normal, because they know the process here from within review. So I believe that in this part there still has a confidence [...] (GMM2).

But it is noteworthy that trust is not only generated by the longevity of the relationship, since the teams in both companies can be renewed constantly. Hierarchical dependency is needed to ensure that trust is never lost, and cooperation between company functions always happens, as the Program Manager explains: "There is a trust, but we are totally dependent on bureaucratic and hierarchical issues [...]" (GP2). These bureaucratic processes are also explained by the organization's Storage Supervisor 1.

> We have rules for all operations, everything is documented, everything is processed; how do I make an exit, how is an order release, what is the next step, what does the guy have to do, where does he end, where does the other start. So there are well-defined procedures and that helps then, this integration process "right". Each one knows their stage within the process, and the interconnections between them. (SA1).

It is necessary to observe the positive and negative aspects of a lot of bureaucracy, knowing how to balance the formality and informality of relations between organizations. For GMV2 the rules tend to facilitate the integration process, as explained below.

> Where there are rules and procedures tends to facilitate obviously that, it is ... There are some exceptions that sometimes she, she hangs right ?! It goes like this: "knot", so much formality that "it's" blocking the process, I didn't need it. But since the "thing" is flowing, "everybody" is in tune, I think the rules and formalities they tend to aggregate value. (GMV2)

The rules and design of procedures helps to ensure that some organizational objectives are aligned and not conflicting. These common goals are cited by Organization Production Manager 2 "[...] I also believe that the common objectives are: quality of service, prompt service." (GP2) The following statement by Organization 1 Production Supervisor presents this relationship.

> We also try to leave well designed for two people to do the same activity. And avoid there, ahead, a possible conflict in the activity that the person performs. So it is also well designed in scope when we hire the company, it is well designed the scope of the activities we expect, what are the activities it needs to perform [...] (SP1).

Initially, it is necessary to have training between companies, so that one knows the processes of the other, and the external function is in tune with the internal functions, and the organizations studied make use of this integration mechanism, as explained by GMM2 "[. ..] this training, this information exchange to see what is possible and what is not, and trying to do everything the right way happens."

But it is not only organization 2 that participates in the integration training of organization 1, the opposite happens as well, that is, there are exchanges, as stated by SP1.

> The whole season we participate in the integration of drivers of these companies, so they invite us to go there and talk a little about the safety of our operation. [...] And also if "she's" in here, she needs "she's" well prepared to avoid any problems, even because we are measured by any type of accident we have, regardless of whether it's a third party, contractor, with a crop temporary worker if it is effective [...] (SP1).

Organization 1 has a staff to represent all contractors within the organization, and are called the Contractor's Certified Representative, as explained in SP1.

> For all third parties we have an RCC, which he is the contractor's certified representative, so there is an employee who is responsible for making a link between the third party [...] this RCC is responsible for checking the day to day life. , he will see if what we agreed to in the contract signature, if it is really happening [...] (SP1).

The joint work and willingness to resolve conflicts between the Commercial, Supply Chain and outsourced functions are highlighted by the organization's Storage Supervisor 1.

> We want a partnership, so if I don't have a partnership with my supplier, it doesn't go where I want to go, so we have been working much closer to them, in order to build a number: "come here 'oh' operation fokers, sales, how do we do it? "So I don't ride it alone, I get to the operator and say," Tell me how we can do it and what you can do, because where you are not able to do it, and I have to do it, I will have to look for another player in the market ", but we have been trying to do it with 4 hands. (SA1)

The importance of aligning organization 2 with the objectives of the organization's functions is that the carrier that will reflect what the company's service is like at the end of the operation to the customer, as the Warehouse Supervisor points out when speaking about the meetings that happen.

> We created a semiannual meeting that we are doing, quarterly, I'm sorry, that we are "doing" in SP gathering all our outsourced, our suppliers [...] so we have been working trying to bring this into home and improve, because to provide a good service we understand that we have to be very aligned, which is our face (SA1).

Proper communication that balances formal and informal communication is a major factor in integration; that is, the use of different types of equipment to reduce the problems caused by physical distance, as well as daily, paperless communication regardless of the requirement for formal communication, as explained by organization sales representative 1 and organization production supervisor 1.

> Everything is "easy" due to the ease of communication, there is e-mail, there is a cell phone, but many times you can't talk at the moment you need it, or the communication arrives at the right time [...] but the company has a system directly with the logistics. (RC1)

> We have a communication channel with them via an interaction center, which is "0800". So they fire if something happens even for load monitoring, they have to fire, so there's a monitoring team that does that fire ... that fires it directly, or they fire when something happens, and the team in SP, Our transportation team has access to this information (SP1)

This information sharing is cited in the question of feedback, as both organization 1 provides feedback to organization 2, and conversely, this is critical to establishing an integration scenario, as AD2 explains.

> They also receive our feedback, "right" [...] Despite our supplier, we also give them points that we think they can improve. So, this is an information exchange, it is logical that sometimes we have some subject that sometimes we will not tell them, as they tell us, of course. But that there is ... this

> information exchange. And in everyday life there, every day, every day we change. (AD2)

When top management is concerned with promoting this integration and rewarding for the work done, the motivation becomes greater, so organization 1 as a contractor has an evaluation at the end of each year to reward those functions that are outsourced by the company, as explained by SA1 "we have an award for the best third, best hired [...] then we have some rules that we work with initially and from there we reward those companies that stand out as partners." (SA1)

The working relationship between organizations 3 and 4 is not based on a formal contract, as organization 3, an agribusiness cooperative, is an intermediary between the transport contact between coffee exporters and organization 4, a carrier. But as organization 3 sells the coffee, and stores it until it is loaded onto the trucks, interaction with the carrier's management and operators is daily and closer than with exporters.

In this sense, the point of contact between the organizations is the transportation of the marketed coffee and the coffee perforation (sample removal), as explained by the Organization 3's Coffee Trade Supervisor (SCC3) and the organization's Transport Director 4. (DT4).

> Exporters are also hired, they buy the coffee to be withdrawn, usually ... so it is usually they who hire. When coffee is already going to the South of Minas, usually the company already hires the carrier, and they come to the cooperative to embark, because we do not have our own fleet. (SCC3)

> Our client buys a coffee there, our shipper leaves, goes there and shreds the coffee, shredding is taking a sample of the coffee. Then send it to Santos, our client sees if it's that same sample he bought, understand? So, he gives ok, if everything is ok, if it really is that sample he bought, ok: "you can go that day and ship the coffee, then the shipper comes back there, and embarks the coffee, he sticks bag by bag, to check, for later he send this sample again to the customer and the load. (DT4).

As can be seen, the processes are less complex than that of organizations 1 and 2, however they are still subject to conflict when integration does not occur as it should, in which case DT4 and SCC3 highlight problems in load checking, both load weight and type of product "[...] normally, when he doesn't check the coffee, he says it wasn't this coffee I bought, or the person puts another coffee there, another merchandise, or he cancels the purchase, understand? I didn't buy that from you." (DT4)

The requirements are usually in relation to the quality of the service provided and are also required for cargo insurance as it is an expensive commodity.

> The quality of their service is excellent, those who see our daily life do not even believe that they are outsourced. It is the interaction ... even being outsourced has to have an interaction between the teams, this is super important, and confidence in the work that the other performs. (SCC3)

A problem when outsourcing is that consequently there is a loss of power on the part of the contractor, even if these organizations do not have a contract, can be analyzed in the same way, because the logistics service is performed by another company, not internally. But by establishing this integrated relationship between functions, these effects are minimized.

> When you outsource you lose some power because the other company has its way of being, but both us and the other company end up adapting to the work policy. This builds an integrative working relationship. (GRH3)

> Moreover, even though they are functions of different companies with different cultures, they are engaged in the same product language, in this case coffee, as emphasized by SCC3.
> Who lives in the coffee world, as they say, is a world apart, so I wouldn't say they have to adapt so much to the company culture in general, when they know the language of the coffee world, what happens, the problems, so it makes our work easier. (SCC3)

The relationship of the two organizations can be described as uncomplicated and informal, this is due to the low point of contact, but the integration is high, this is justified by the longevity of relationships, since organization 3 has been working with organization 4 for almost 15 years. years, as the SCC3 explains.

> I've been here for 15 years, and it's always been the same class at the time, changing one or the other in the company, but it's always the same, and that certainly helps a lot, because adapting to a new company with a new class must be difficult. (SCC3)

This longevity of relationships can also be responsible for generating a high level of trust between the functions of both commercial and logistics companies, as noted in the statement by the Commercial Director of Coffee (DCC3).
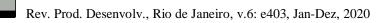
> We have a lot of confidence in them and they in us, because many times we help even at the landing without the slightest problem. A very big trust, a long time working together, and one that, the coffee we ship in one is from the cooperative "right", is from the producer. So we have a responsibility to take care of what is not ours and this partnership with the logistics staff helps a lot [...] (DCC3).

Adequate communication, which balances informal and formal contact between the functions of both organizations, is predominantly informal in this case, as hierarchical dependence is low, although there is respect for this hierarchy.

> They arrive and already know who to look for, time to wait, opening hours, so they respect even being outsourced, respect the hierarchy here of the cooperative. so the rules for internal functions are the same for external ones. (SCC3)

> [...] when he needs to talk to the embargoes, drivers who are here every day is practically by phone, without much formality and usually [...] are emails, he sends an order tomorrow, we sell the coffee to the exporter, the carrier already Come here, check the coffee and one day after the sale, we sell the coffee to withdraw with 7 days. They come here check the coffee, ok? Then there is a charge order for the tax: "such a day, such a cart, such a plate, explaining everything, insurance everything", so usually this part is by email. (SCC3)

Informality was observed by the researchers at the time of the interview with the Coffee Commercial Director, as they contacted the logistics company to ask when they would be in the city where the carrier is located for the researcher to do the interview, and the conversation was

informal, like a conversation between friends. This is important in a relationship between functions, whether internal or external. And this question was highlighted by the interviewee DCC3.

> In this time of the interview we even called the people of the carrier as you saw, to know when they would come, you saw that is a lot of friendship even in the relationship, they feel like part of the company and look that the contract is not with us. (DCC3)

Rezende et al. (1997), in their study, argues that integration and outsourcing are not exclusive and can occur in parallel and simultaneously. Based on this assumption, the present study complements this perception by showing that when integration factors are identified according to each organization, conflicts resulting from outsourcing can be overcome if these integration factors are better managed (Baraldi et al., 2014), thus the two processes, integration and outsourcing can happen simultaneously.

The properties highlighted by the interviewees regarding the conflicts are the result of lack of integration, as the problems with programming, errors in order release, the load checking and the lack of understanding regarding the other function and company work. The consequences of these conflicts are many, they range from the lack of harmony and reliability in the work of the other, to the breach of outsourcing contract between functions and companies.

These conflicts can happen in different relationships of internal functions with external functions, and what can be seen in concluding this research is that the working relationships between functions and organizations that have more contact points are those that are subject to more conflicts (Buss; Cunha, 2001). However, setting common goals, improving communication between roles, joint planning, and greater joint willingness to resolve conflicts are some of the integration factors that contribute to their reduction (Pimenta, Silva & Yokoyama, 2010).

Another important issue is the cultural elements from the contracting company to the demands and control they have over the work of the outsourced function. Some authors have studied cultural differences and dependence from supplier (Guimarães & Carvalho, 2012; Grossman & Helpman, 2001), and they perceive that in a relationship between internal and external function, there is a tendency for the contractor, or organization that is above the supply chain, not to respect cultural differences, and imposing one culture over another, and / or define many forms of control under the other's work.

For cultural issues and forms of control that displease either party, the application of some integration factors may contribute to an improvement in the relationship between an internal and an external function. First, sharing information whether through meetings or building work teams between roles, can reduce cultural differences (Nazário & Abrahão, 2002). As well as creating appraisal and reward systems for each other's work, they can make work controlled by a function outside the organization more motivating for those involved (Thongpapanl et al., 2018).

The table 4 summarizes the elements and properties found after the in-depth interviews in each of the organizations. The integration factors were mentioned by Pimenta et al. (2016) in his internal integration studies, such as relationship longevity, joint planning, senior management support, meetings, confidence level, education and training, physical proximity to workplaces, proper communication, willingness and joint work to resolve conflicts, cross-functional teams, mutual evaluation and reward system, non-conflicting goals between roles, hierarchical dependency and information sharing. The results of the interviews testify the presence of the same integration factors mentioned, but it is innovating when we look at the outsourcing context, not yet mentioned by previous studies.

Table 4: Categories and properties.

Category	Organizational Properties 1 e 2	Organizational Properties 3 e 4
Integration Factors	- Longevity of relationships; - Joint planning; - Support from senior management; - Meetings; - Trust level; - education and training; - physical proximity to workplaces; - adequate communication; - Willingness and joint work to resolve conflicts; - Cross-functional teams; - Mutual reward and evaluation system; - Non-conflicting objectives between functions; - hierarchical dependencies; - Information Sharing	- Trust level. - Group spirit; - Longevity of relationships; - Joint planning; - adequate communication; - Extensive knowledge of one function in relation to another; - hierarchical dependence; - Meetings.
Requirements	- Safety; - Program attendance; - Common tracking; - Respect for the environment; - Differentiation and quality of service provided.	- Quality in the service provided; - Cargo security.
Contact Points	- Internal and external transportation; - Harvest.	- Transportation of coffee already marketed; - Coffee perforation.
Conflicts	- Problems with programming. - Errors in order release; - Lack of understanding with the work of another function / company.	Cargo Check
Culture	- The service provider seeks to fit more into the contractor's culture; - Safety principles are passed whenever possible; - Training as a mechanism to reduce cultural difference.	Companies engaged in the same business language.
Control and flexibility	- KPI's definition; - Feedback.	No forms of control or flexibility were found.

Source: Prepared by the authors.

The breakthrough in science here is to bring up elements into the outsourcing context that until then were unknown, as the results found into the field – integration factors that have not been mentioned earlier, many of them present in organization internal functions relationships, the evidence of the requirements present at the vendor and contractor formal contracts, the roles, activities and people related to the functions from the four organizations, the conflicts (Mahnke, 2001; Rothaermel, Hitt & Jobe, 2006; Guimarães & Carvalho, 2012), culture (Guimarães & Carvalho, 2012; Grossman & Helpman, 2001) and control (Leão et al., 2014; Rezende, 1997) elements may reaffirm what is said in the literature.

5. CONCLUSION

The general objective of this paper was to contribute to the theoretical gap that exists in the field of outsourcing studies in companies with regard to cross-functional integration. This work analyzed the cross-functional integration elements present into organizations inserted in a context where logistics area is outsourced. By conducting interviews with professionals from the four organizations involved, two contractors and two vendors, they have been questioned about the integration elements which are present in the daily relations of these organizations. The employees were from the areas of production, sales, supply chain and human resources. During the treatment of the results, it was possible to group common elements mentioned during the interviews and

create seven different categories: Integration Factors, Requirements, Contact Points, Conflicts, Culture, Control and Flexibility. Each of these categories demonstrates how the integration between outsourced area and internal functions occurs, as presented at Table 4.

This work may contribute to the integration management of organizations that need to integrate their outsourced activities with internal functions, understanding how the integration of internal organizational functions with external functions occurs, in a scenario of outsourcing services. Also, to the outsourced organizations in general, the categories and properties that explain how this integration occurs can be identified by analyzing the integration of internal also. In addition, considering the current Brazilian context, in which the law allowing outsourcing of end-of-organization activities was approved, they can use the categories found in this research to plan new outsourcing processes.

The research had limitations because it was based on the analysis of a single outsourced area: logistics. So, the case study could be performed in other departments. In addition, the two contractual relations are between an agribusiness company and a carrier. However, the conclusions of this research are consistent and relevant to the study of the integration between internal and external functions, as they are consistent with the arguments of other authors and point to factors that can be found in other areas. Based on these limitations, the development of studies based on outsourcing of other functional areas, as well, as other business sectors are suggested.

6. REFERENCES

Anderson Jr, E. G., & Parker, G. G. (2012). Integration decisions when outsourcing, offshoring, and distributing knowledge work. *Prod. Oper. Manag*.

Assaf, S., Hassanain, M. A., Al-Hammad, A. M., & Al-Nehmi, A. (2011). Factors affecting outsourcing decisions of maintenance services in Saudi Arabian universities. *Property management*, *29*(2), 195-212. https://doi.org/10.1108/02637471111122471

Baraldi, E., Proença, J. F., Proença, T., & De Castro, L. M. (2014). The supplier's side of outsourcing: Taking over activities and blurring organizational boundaries. *Industrial Marketing Management*, *43*(4), 553-563. https://doi.org/10.1016/j.indmarman.2014.02.012

Bardin, L. (1977). Análise de conteúdo. trad. *Luís Antero Reto e Augusto Pinheiro*, *3*.

Bertan, F. O., Ferreira, A. C., Pimenta, M. L., & Hilletofth, P. (2016). Análise da Integração Interfuncional nos Pontos de Contato de Processos de Desenvolvimento de Sementes. Organizações Rurais & Agroindustriais, 18(3). https://doi.org/10.21714/2238-68902016v18n3p238

Buss, C. O., & Cunha, G. D. (2001). Análise de marketing no desenvolvimento de produtos. In Anais do 3º Congresso Brasileiro de Gestão do Desenvolvimento do Produto.

Campbell, J. D. (1995). Outsourcing in maintenance management: a valid alternative to self-provision. Journal of Quality in Maintenance Engineering, 1(3), 18-24. https://doi.org/10.1108/13552519510096369

Carvalho, K. L.; Barboza, M. de F. P. B.; Gonçalves, M. A. Terceirização e estratégia competitiva: perspectivas para a logística no Brasil. IN: *XXVI ENEGEP. Fortaleza*, 2006.

Chen, D. Q., Preston, D. S., & Swink, M. (2015). How the use of big data analytics affects value creation in supply chain management. *Journal of Management Information Systems*, 32(4), 4-39. https://doi.org/10.1080/07421222.2015.1138364

Chen, H., Daugherty, P. J., & Roath, A. S. (2009). Defining and operationalizing supply chain process integration. *Journal of Business Logistics*, 30(1), 63-84. https://doi.org/10.1002/j.2158-1592.2009.tb00099.x

Coelho, L. C., Follmann & Rodriguez, C. M. T. (2008). Agregando valor ao cliente através da integração de marketing e logística. *ADM Jornal, Gestão estratégica*. (1), 132.

Federico, S. (2010). Outsourcing versus integration at home or abroad and firm heterogeneity. Empirica, 37(1), 47-63. https://doi.org/10.1007/s10663-009-9118-3

Fleury, A. C., & Fleury, M. T. L. (2003). Estratégias competitivas e competências essenciais: perspectivas para a internacionalização da indústria no Brasil. Gestão & Produção, 10(2), 129-144. https://doi.org/10.1590/s0104-530x2003000200002

Ganji, E. N., Shah, S., & Coutroubis, A. (2018). An examination of product development approaches within demand driven chains. Asia Pacific Journal of Marketing And Logistics. https://doi.org/10.1108/apjml-02-2018-0042

Garcia, N., Sanzo, M. J., & Trespalacios, J. A. (2008). New product internal performance and market performance: Evidence from Spanish firms regarding the role of trust, interfunctional integration, and innovation type. Technovation, 28(11), 713-725. https://doi.org/10.1016/j.technovation.2008.01.001

Giosa, L. A. (1997). Terceirização: uma abordagem estratégica. Cengage Learning Editores.

Gonzalez-Zapatero, C., Gonzalez-Benito, J., & Lannelongue, G. (2017). Understanding how the functional integration of purchasing and marketing accelerates new product development. International Journal of Production Economics, 193, 770-780. https://doi.org/10.1016/j.ijpe.2017.09.004

Grossman, G. M., Helpman, E. (2003). Outsourcing versus FDI in industry equilibrium. Journal of the European Economic Association, 1(2-3), 317-327. https://doi.org/10.1162/154247603322390955

Guimarães, C. M., Carvalho, J. C. D. (2012). Terceirização em cuidados continuados: uma abordagem de gestão de risco. Ciência & Saúde Coletiva, 17, 1179-1190. https://doi.org/10.1590/s1413-81232012000500012

Hammer, M. (2002) A empresa supereficiente. Revista Exame/Harvard Business Review. Parte da Ed. 764 de Exame, Abril.

Hausberg, J. P., & Leeflang, P. S. (2019). Absorbing Integration: Empirical Evidence On The Mediating Role Of Absorptive Capacity Between Functional-/Cross-Functional Integration And Innovation Performance. International Journal of Innovation Management, 23(06), 1950056. https://doi.org/10.1142/s1363919619500567

Hehenberger, P., Vogel-Heuser, B., Bradley, D., Eynard, B., Tomiyama, T., & Achiche, S. (2016). Design, modelling, simulation and integration of cyber physical systems: Methods and applications. Computers in Industry, 82, 273-289. https://doi.org/10.1016/j.compind.2016.05.006

Holcomb, T. R., & Hitt, M. A. (2007). Toward a model of strategic outsourcing. Journal of operations management, 25(2), 464-481. https://doi.org/10.1016/j.jom.2006.05.003

Jugend, D., Da Silva, S. L., Magnanini Almeida, L. F., & Gobbo Junior, J. A. (2013). Integration practices for the technological innovation of products: Case studies at two large technological companies. Journal of technology management & innovation, 8, 58-58. https://doi.org/10.4067/s0718-27242013000300058

Jugend, D., Jabbour, C. J. C., Scaliza, J. A. A., Rocha, R. S., Junior, J. A. G., Latan, H., & Salgado, M. H. (2018). Relationships among open innovation, innovative performance, government support and firm size: Comparing Brazilian firms embracing different levels of radicalism in innovation. Technovation, 74, 54-65. https://doi.org/10.1016/j.technovation.2018.02.004

Kahn, K. B. (1996). Interdepartmental integration: a definition with implications for product development performance. Journal of product innovation management, 13(2), 137-151. https://doi.org/10.1111/1540-5885.1320137

Kahn, K. B., & Mentzer, J. T. (1998). Marketing's integration with other departments. Journal of business research, 42(1), 53-62. https://doi.org/10.1016/s0148-2963(97)00068-4

Leão, P. V. D. O. C., Nunes, S. C., de Carvalho Neto, A. M., & da Cruz, M. V. G. (2014). Terceirização: implicações nas práticas de gestão de pessoas da empresa contratada. RECADM, 13(1), 21-38. https://doi.org/10.21529/recadm.2014007

Lockamy III, A., McCormack, K. (2010). Analysing risks in supply networks to facilitate outsourcing decisions. International Journal of Production Research, 48(2), 593-611. https://doi.org/10.1080/00207540903175152
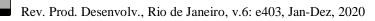
Mahnke, V. (2001). The process of vertical dis-integration: an evolutionary perspective on outsourcing. *Journal of Management and Governance*, 5(3-4), 353-379.

Nazário, P.; Abrahão, F. Terceirização estruturada: o uso do RFI como ferramenta de seleção de operadores logísticos. *Revista Tecnologística* - junho de 2002, p. 104-111.

Pagell, M. (2004). Understanding the factors that enable and inhibit the integration of operations, purchasing and logistics. *Journal of operations management,* 22(5), 459-487. https://doi.org/10.1016/j.jom.2004.05.008

Perks, H. (2007). Inter-functional Integration and Industrial New Product Portfolio Decision Making: Exploring and Articulating the Linkages. *Creativity and Innovation Management,* 16(2), 152-164. https://doi.org/10.1111/j.1467-8691.2007.00429.x

Piaz, J. L. A. F. D. (2006). Os efeitos da integração das áreas de marketing e operações para as organizações.

Pimenta, M. L. (2011). Caracterização da dinâmica de integração interfuncional: um estudo multicaso em marketing e logística.

Pimenta, M. L. (2019). CROSS-FUNCTIONAL INTEGRATION IN PRODUCT DEVELOPMENT PROCESSES IN THE ERA OF INDUSTRY 4.0. *Revista Produção e Desenvolvimento*, 5. https://doi.org/10.32358/rpd.2019.v5.350

Pimenta, M. L., da Silva, A. L., & Yokoyama, M. H. (2011). Integração entre logística e marketing: fatores críticos na perspectiva de interação e colaboração. REAd-Revista Eletrônica de Administração, 17(3). https://doi.org/10.1590/s1413-23112011000300006

Pimenta, M. L., Silva, A. L., & Tate, W. L. (2016). Characteristics of cross-functional integration processes: evidence from Brazilian organizations. The International Journal of Logistics Management, 27(2), 570-594. https://doi.org/10.1108/ijlm-01-2014-0010

Queiroz, R. D., Queiroz, A. D. (2006). Integração Vertical versus Terceirização: análise da viabilidade em um estudo de caso na indústria moveleira. Fortaleza: sn.

Rezende, W. (1997). Terceirização: a integração acabou? Revista de Administração de Empresas, 37(4), 6-15. https://doi.org/10.1590/s0034-75901997000400002

Rothaermel, F. T., Hitt, M. A., & Jobe, L. A. (2006). Balancing vertical integration and strategic outsourcing: effects on product portfolio, product success, and firm performance. Strategic management journal, 27(11), 1033-1056. https://doi.org/10.1002/smj.559

Stank, T. P., Daugherty, P. J., & Ellinger, A. E. (1999). Marketing/logistics integration and firm performance. The International Journal of Logistics Management, 10(1), 11-24. https://doi.org/10.1108/09574099910805905

Thongpapanl, N., Kaciak, E., & Welsh, D. H. (2018). Growing and aging of entrepreneurial firms: Implications for job rotation and joint reward. International Journal of Entrepreneurial Behavior & Research, 24(6), 1087-1103. https://doi.org/10.1108/ijebr-03-2018-0135

Turkulainen, V.; Roh, J.; Whipple, J. M.; Swink, M. (2017). Managing Internal Supply Chain Integration: Integration Mechanisms and Requirements. Journal of Business Logistics, 38(4), 290-309. https://doi.org/10.1111/jbl.12165

Van Hoek, R. I. (1998). Logistics and virtual integration: postponement, outsourcing and the flow of information. International Journal of Physical Distribution & Logistics Management, 28(7), 508-523. https://doi.org/10.1108/09600039810247498