Logistics, from a Corporate Function to a Territorial Planning Requirement

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Abstract: We aim in the course of this article to demonstrate the obvious yet underestimated effects of logistics on territorial planning. In fact, we tried throughout the article to convince by example that logistics has indeed become more of a territorial related practice than corporate affiliated function. In order to verify our theory we went back to the basis of logistics and rooted it back as a territorial offer key component. Then we retrieved different interactions that link logistics to territorial basics such as infrastructure, attractiveness, city … by means of putting together a territorial planning project canvas and quantifying its content in order to get a statistical view on logistics weigh in territorial planning. We actually ended up with a convincing 37% impact value of logistics-related components on the territorial project construct, highlighting accordingly their importance to territorial processes effectiveness. We ultimately were able to confirm that logistics has indeed become more of a territorial concern, as it actively participates in its attractiveness. In fact, business’s logistics strategy has to answer to territorial functions as: harmony with landscape, quality of life, infrastructure effectiveness… amongst others. This led us towards few prospects that could help territories succeed a logistics-driven attractiveness. One of these prospects is to develop a managing system for city planning driven by city officials but where decision making goes through professionals, entrepreneurs, citizens to ensure that territorial planning is done in accordance to the real needs as expressed by its users, amongst which there is logistic-platform managers and multinational companies.

Keywords: Territorial Offer, Territorial Planning, Logistics, Attractiveness

1. Introduction

The «logistics» as a concept was founded in the United States around 1940’s and found its way to Europe and France at 1980’s as states Abbad [1]. That is in fact explained by its ever-growing place in the businesses structure as well as its strategic status. Since logistics responds to the overall corporate vision and vividly participates to determining its strategic orientations [1, 2]. The concept is therefore a young corporate function that is strategic dimension didn’t appear until the 80’s for the biggest strongest companies. Although it started as a component of marketing, it has emerged since as an independent discipline. Independent because it could prove its efficiency (cost wise, customer satisfaction wise, guidance and hierarchy-integration of business-partners wise). It also approaches differently the corporate and its environment as it was transformed to answer to the requirements of sustainable development and globalization [2].

Belin-Munier (2011) [2] retraced the evolution of logistics for businesses as it started in the 60’s in the form of activities linked to transportation, handling and warehousing that was handled by various corporate departments. It then evolved to a unit of interactions-management that aims to reinforce reactivity and flexibility. The 80’s was the era of prospective and strategic planning where storage management has proven its weight when it comes to customer satisfaction, it also can reduce costs significantly if out-sourced. Logistics therefore expanded to supply Chain Management – SCM (1990), businesses had to start managing these out-sourced supply chains strategically, sustainably, virtually, in a socially responsible manner.
Savy & Liu (2009) [3] identified through the study of few examples three phases that usually accompany logistic platform development: initial growth, rationalization, sustainability.

- Initial growth phase is when there is a fast up-growth of economic and logistic activities. It is all about finding any available space, this space is set up in a basic way (no fantasy equipments, the quality of the roads … come secondary to quick availability of spaces) because there is no global policy to manage the matter.
- Rationalization (validation) phase in which a critical analysis is conducted to correct the imperfections of the first phase. Indeed, the first leaves us with many useful yet strategically misplaced constructions: bad conception, space non optimized, useless competition, remoteness from city centers, bad road connections…
- Towards sustainable logistic-development: from now a prospective[4], appraisal should be held to control logistics contribution to business development, work opportunities, nuisance, transportation flow… logistic-management should also see to an efficient energy consumption policy, carbonic-gas emissions and minimize overall negative effects on population.

These phases as identified mean that logistics at a point of time found itself no longer a corporate function and had to comply with territorial requirements. The question now is as follow: does logistics really apply as a territorial planning element? If so, to what extent is logistics important (or irrelevant) to territorial marketing?

2. Placing Logistics in Territorial Offer Construct

Some of logistic-management recent developments link logistics exclusively to businesses. Thus, logistics component were actually part of Territorial responsibilities earlier on. In fact, territorial marketing was at first conceived to align marketing processes with territorial requirements [5]. The objective was to allow territories to acquire better positioning, get more market share, define their offer, create adequate activity portfolio accordingly.

2.1. Glance at the Territorial Offer Components

As territorial offer [6, 7] is actually a heterogeneous entity [8]; it is consumed by various consumer types for different reasons in different ways [9]. Territorial offer consists of all that has something to do with population [10], geography, mobility and territorial planning, [11, 13]. Which include logistics components as identified by Becker (2003) [14]: Transportation and roads infrastructure; Warehouses construction; Impact on jobs and positions-creation…

Further proof that logistics components has forever belonged to the territorial offer dogma, it is a confirmed part of the territories components based on which attractiveness is built. Since territorial offer is consumer oriented [13, 15], it builds its offer upon competitive advantages to improve overall attractiveness as a place of consumption as well as a consumed place [16]: As the territory is a place of consumption as the territorial offer is consumed on the given territory; it also is consumed as for example: roads are amortized, historical sites are visited (the territory itself becomes an experience) [31] … The components that belong to logistic-management are various; from those we cite a few:

- From the territorial components as cited by Meyronin [17] and Pinel [18] emerge two components that are as well relevant to logistics: economical and infrastructure related components, public interest component
- In the classification of components as systems [19], we can find logistics in the economic system (as they include accessibility to products and their handling, land and buildings prices, businesses level of cooperation and synergy …), Transportation system and telecommunication system obviously, human resources for which the existence and training are of big importance in logistics and for which the respect of a descent quality of life is a must;
- Another classification, this time of territorial services provided to businesses [20] actually reports the services needed for logistics: as they influence the decision of existing or not on a given territory, facilitate the activity launch and may lead to expansion, reinvestment in developing the logistics platforms;

That is why, in China for instance territorial planning has included logistics by means of a pioneer initiative that was baptized “Pinghu Shenzhen China Logistics Base” [3]. The plan aimed to improve logistic-management on a territorial level. The platform was founded in 1998 over 1643 ha as a part of the “National commission of Development and Reform” five-year plan (2006-2010) that intended developing modern-days logistics. Since, most regions and cities followed and founded their own plans for an efficient logistic-management scheme nation-wide. Later adjustments of these plans produced a list of priority territories for Chinese logistics development; nowadays logistics has become an explicit component of territorial and urban planning.

I think the latter example answers on its own our interrogation: logistics cannot in fact be held apart from the territory of its existence because it is a component of the territorial offer first of all. And second, because research has proven that logistics indeed influence the offer of territories as there are many interactions between those two.

2.2. Logistics, Territorial Planning, Attractiveness

Decision of localization for a business’s logistic-activity is complex in the sense that the decision is fed by numerous considerations that Masson & Petiot (2012)[21] filed into eight categories:

- Accessibility and transportation costs;
- Accessibility to markets and geographical considerations;
- Implantation cost;
• Cost and abundance of production factors;
• Regulations and politics (fiscal policy, political stability…);
• Supply chain organization;
• Relation with territory (urbanism, surroundings…);
• Territorial assets.

In the same way that businesses choose territories for their logistic-activities, territories also decide according to their strategic orientation on the type of logistic-platforms they prefer to attract to. Consequently, a territorial offer can work on adequate infrastructure for distribution warehouses for imported manufactured products; these are to be strategically set around ports. The offer can aim storage warehousing for industrial goods; this logistic option has to be strategically placed to insure the most reactivity to consumer’s queries. Territories may also work on offering co-packing or co-manufacturing platforms; these platforms facilitate goods transportation as they group flows at the distribution center and de-group them once they reach destination in a manifest cost management opportunity. A latter form could be the Local distribution platform or Shipping platforms which have local services range. [21]

Territorial planning has to include fright terminals in accordance with preexisting logistic amenities. This means applying to constraints of space rarity and fragility along with population density in urban areas. On urban level two rules have to apply [3]:

• Territorial planning mustn’t allow logistics setup wherever with no prospective control (as to how it is going to develop and affect its surroundings in terms of environment issues, noise, security, traffic conditions…);
• At the same time it has to see to it not being expelled from the city because of its weighing effects on the economic system.

If the second rule isn’t met, the territory undertakes the risk of logistic-activities fleeing to distant places where lands are available yet well affect the services quality and loosing accordingly the proximity advantage: long distances from fright terminals, poor work conditions for workers, pollution are few of many flaws to endure. Hence territories may as well use proximity argument to their advantage; proximity can be very attractive to investors if it meets some basic SKF such as: Training on behalf of similar-activity businesses highly skilled labor; presenting a base platform of shared utilities and services which will positively impact the existing businesses cost-structure…

Thus, territories must seize the existence of logistic-activities and develop it towards attracting furthermore and create therefore jobs [3] and benefit from the weight that this kind of polarization could have on the territory in terms of visibility and territorial development. Indeed, territorial managers have come to consider logistic-activities as a modern attribute to an attractive territory instead of the old fashioned nuisance to residents they use to think they were [21].

Logistics as an attractiveness tool

Logistics platforms have become a social vector for territories to lower unemployment rates. Also they became a local-business development catalyst as they tend to orient towards outsourcing which helps these local-businesses benefit from high added-value activities [22]. Logistic platforms are a resident way to add to local fiscal income [21].

In sum, the pre-existence of logistic-activities can participate in the decision of industrial firms to invest in a territory, once the decision taken; these industrial firms newly added to the territorial offer reinforce these logistic-platforms with more developed infrastructures and improve the quality of connections with international markets. Hence creating a cycle of benefic events that drive the change and induce overall territorial development [23]. We tried in the following figure (Source: Author’s creation. Figure 1) to visualize the said cycle:

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**Figure 1.** Leverage of logistics integration in Territorial-projects’ planning.
3. Research Methodology: Detecting Logistics Importance to Territorial Project Planning

Up until now, we cited the most convincing arguments from the literature of both disciplines (logistics and territorial planning that is) on the positive effect that territorial planning would have on territorial logistic-platforms; and the leverage that results from integrating logistics into territorial thinking in order to capitalize on competitiveness and attractiveness. Yet, we decided to test the feasibility as well as the advocated effects of logistic integration in territorial offer construct through the methodology; and the results we produced hereafter.

To do so, we based our analysis on a territorial planning canvas designed by our research team [24]. This canvas is a table that contains a listing of the elements that territorial planning should contain to ensure its effectiveness. The said table is conceived as a synthesis of several territorial projects studied by the authors, which are:

- The South-Arcachon basin’s agglomeration community-France (English translation for: CoABAS - Communauté d’Agglomération du Bassin d’Arcachon Sud): CoBAS [25];
- Planning and sustainable development (English translation for: PADD - Projet d’Aménagement et de Développement Durable) of the Annemasse Region-France, [26];
- The community of «the Two Rivers» town-France (English translation for: la Communauté de commune des deux Fleuves) [27];
- The Témiscamingue Territory-Canada [28].
- The latter (Témiscamingue Territory): It is not a report on the realizations neither an active plan awaiting action. It is rather the product of a participative-approach game for which all territorial stakeholders were gathered to exchange on their vision for the territory. The product of this “territorial game” was the conception of a territorial project specific to the needs of the territory and its stakeholders.

The territorial planning canvas contains three key components:

- Exploratory reflections. This component consists of the subjects of preliminary territorial diagnosis;
- Territorial-project planning process: that can be assimilated to any normal marketing process. It consists of:
  a) Defining and prioritizing territorial objectives that are the product of discussion and approval of all territorial stakeholders;
  b) Imagining all possible evolution scenarios and defining the one that is most achievable and beneficial for the territory while it answers all objectives previously defined;
  c) Once the planning part over, factual implementation of the territorial project and control of its outcome;
- Development areas: across this component the different direction taken or considered to be beneficial for a successful territorial project [26, 27, 29]. Further reading led us to re-organize these direction into 4 themes: (1) Living environment and quality of life Ambitions; (2) Nature and history; (3) Attractive economical-project for Innovation & perennial development; (4) Responsible urban planning with interregional Vocation.

As a first step in our quest to evaluating the effect of logistics on territorial planning: we divided these territorial planning canvas components into two categories: first, the elements that rely, have something to do or are actually a logistics-related crafts. The second category contained the elements of territorial planning that have nothing to do with logistics.

Second step: we attributed to the components a value as follows: for the first category of components we attributed the value (1), which gives them a weight in our calculations as they are basically logistic-related activities. The value attributed to the second category components is (0), which means that the components of territorial planning canvas that are not related to logistics won’t have a weight in our calculation as they will not be accounted for.

Third step is about adding together the values attributed to the components of territorial planning. This step will give us an idea on the number of elements from territorial planning that are as well functions of logistics. We are afterwards to calculate the percentage of elements of a territorial planning project that belong or relate to logistics and logistic-strategies. These steps will provide us with a quantitative judgment of logistics weight in territorial projects planning.

Fourth and final step consists of a qualitative appreciation of the value of logistics elements to the different themes of planning on a territorial level.

4. Territorial Planning by and for Logistics

4.1. Results Reading: A Quantitative Estimate of Logistics Weight in Territorial-Planning Projects

Since the territorial project canvas we are basing our analysis on is quite long. We saw timely not to lay the full content of it and present only the values we attributed to each element of the table. Hence, the values we are going for are basically a binary (0-1) value that we attributed to the components of the said table as follows: if a component of the territorial project relates or is part of logistics we give it the value 1; otherwise, if the cell contains components that have nothing to do with logistics will give it the value 0. The result is as follows:
### Table 1. Territorial project components relevance to logistics. Binary-value attribution.

<table>
<thead>
<tr>
<th>Exploratory reflections</th>
<th>Value logistics/exploratory reflections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis</td>
<td>6/11</td>
</tr>
<tr>
<td>Objectives’ definition</td>
<td></td>
</tr>
<tr>
<td>Themes/Components of territorial-project</td>
<td>Value Logistics / theme</td>
</tr>
<tr>
<td>1 Living environment and quality of life Ambitions</td>
<td>3/21</td>
</tr>
<tr>
<td>2 Nature and history</td>
<td>5/19</td>
</tr>
<tr>
<td>4 Responsible urban planning with interregional Vocation</td>
<td>10/31</td>
</tr>
<tr>
<td>Total Logistics value for all themes components</td>
<td>31/89</td>
</tr>
<tr>
<td>Total logistics value for all the table (themes + exploratory reflections)</td>
<td>37/100</td>
</tr>
</tbody>
</table>

As you can see, we attributed to each component of the territorial planning project a value (0/1) according to their relevance to logistics. The total results indicate that 37 elements were related to logistics out of 100 total components. This means that logistics influence more than a third (37%) of territorial projects and therefore needs special attention on a territorial managing level rather than being totally left to corporate narrow-vision considerations. Narrow-vision in the sense that: while implementing a logistic-platform they won’t mind all the considerations that should be minded (sustainability, energy consumption awareness, geographical placement…) in order to insure territorial attractiveness.

However, 37% might not be a very communicative neither exact number to take into account considering that the table that allowed us to calculate the said percentage is a personal trial into formulating what a territorial project looks like. Hence as the number might not be the exact quantification of logistics weight in territorial projects formulation, yet it means that logistics affect either directly or by association about the third of territorial planning content.

Consequently, we can say that logistics are indeed a tool to optimize for territorial planning purposes rather than leaving it out of territorial planning logic and then succumb to its consequences as a fact imposed by corporate practices. For further enlightenment on the subject, we saw appropriate to read more into the figures what logistics planning really do to territorial-planning project:

#### 4.2. Discussion: A Qualitative Valuation of Logistics Importance to Different Territorial-Planning Project Themes

In details, the previous chart offers 5 sub-sums, which have meanings and thus implications on territorial-planning project:

- **Strategic orientations (6/11):** We noticed that territorial diagnosis is conducted entirely upon elements that relate to logistics, while almost half objectives are logistics-related. The aim here is to see to respecting the intense mutations of the logistics sector, while ensuring coherent development and improving territorial planning and running processes.

   - **Territorial managers must carry out diagnosis and prospective studies on transportation-efficiency.** Some territories even create dedicated regional observatories that act in accordance with urbanism-planning agencies and university laboratories. In addition, reasoned planning of land affectation is important to ensure of the efficiency of logistic-
Platforms and their accordance with territorial plans. Land affectation should ensure that the lands oriented towards logistics are well developed to support such activities and this can be possible through the setting up of a land-use policy.

**Territorial project themes:**

a. Living environment and quality of life Ambitions (3 / 21): This means that, out of the twenty-one components of Living environment and quality of life, only three components relate to logistics. A well-grounded logistic-platform is guarantee of better quality of life for workers in the sector: An isolated warehouses, underserved, dilapidated, are a poor working environment for employees while a recent area of activities or renovated a good size allows pooled equipment (living centers, multi restaurants) or transport from home to work (collection, carpooling at unusual hours) in addition to safety in the workplace (reducing the risk of accidents and theft). It also benefits living-standards as Nature and history (5 / 19): Based on our canvas, logistics is involved in about 25% of the nature and it offers consumers the advantages of prices and quality.

b. history theme but mostly nature or environment. Environmental quality is linked to noise, air and water pollution which means that logistics directly or indirectly influences territorial planning in matters that interest natural or historical planning.

c. Take for example freight traffic planning: 90% of freight traffic uses roads, and as environmental considerations come into play interest is shifted towards other modes such as rails, inland waterways (rivers), airports … which are more environmentally friendly modes than road

d. Attractive economic-project for Innovation & perennial development (13 / 18): while in economic-attractiveness related planning, the effect of logistics and on logistics planning is intense. Which means that logistics management influences economic-attractiveness and thus territorial attractiveness up to 70%. The development of successful logistic-platforms is an efficiency factor for the productive system which improves corporate competitiveness and territorial attractiveness.

e. Responsible urban planning with interregional vocation (10 / 31): likewise, logistics interferes in the quality and sustainability of urban planning, as it affects mobility and strategic forecasts.

f. That’s why the territory of Lyon-France adopted a scheme of logistics coherence as a tool to ensure the coherence of logistics-related projects (approved in 1997). The objective of this scheme is to see to respecting the intense mutations of the logistics sector, induce development and improve territorial planning and running processes. Avoiding accordingly possible congestion of traffic that a poorly located platform can generate, insecurity issues that can be caused for the neighbors.

In sum, logistics is and has always been a part of territorial planning as it actively participates in the formulation of territorial objectives, it stands a substantial share in urban planning efficiency, in economic attractiveness. Besides, even if its weight is not as important, logistics influence the quality of life as it offers jobs for one, it sees to the quality of transportation system linking living areas to logistic-platforms… it also touches natural aspects as for the protection of environment, preserving biodiversity and lowering noise and waist emissions.

We confirmed for our part that, logistics is indeed a requirement for territorial planning which has implications on both. As the territory affects logistic-related infrastructures, the latter affects territorial competitiveness ability. Thus its attractiveness is beneficial to all territorial components and logistics-platforms (for it being one of these components. Since the relationship is pre-established and its importance is a fact, we might as well capitalize on it to optimize logistics both as a territorial planning tool and as a corporate function.

5. Conclusion

As we came to acknowledge the importance of logistics as a must in territorial planning, we might as well offer some perspectives as to how to invest in that old-new found correlation between logistics and territorial planning.

First of all, as we have been referring to throughout the article: logistics must be integrated in territorial planning as a development dynamic. And proper knowledge tools should be set to define the characteristics of logistics and territorial planning related elements (economy, transport, market, employment, space organization). Also statistical control processes should be set to ensure the evolution of these elements in consistency with the vision of the territory.

Special attention should be paid to developing public and private sector coordination. For instance by supporting private initiatives and experiments in the logistics for sustainable development. In fact private sector should be part of the decision making process, thus a territorial level consultation and monitoring structure is in order, this structure combines territorial managers, professionals, state departments … and aims to develop the necessary knowledge and thoughts on an overview of the logistics business, its prospects for development, assess its challenges and its place in the territorial and local planning. It could ensure consistency of actions to be implemented both in terms of current problems as prospects ahead, improve information and advice to local actors, and promote employment and the necessary training.

Also, Ensure quality by controlling business processes by imposing a serious and comprehensive impact assessment for any logistic-platform of a certain threshold. Ensure readability and harmonization of rules for the application of procedures. To end with quality improvement of development projects and buildings by establishing a reference document, workbook, under the aegis of a group
involving planners, developers, users, local community.

To conclude, we are going to reproduce recommendation of [30] as they worked on North-Seine Canal in Europe in terms of socio-economical outcomes and territorial dynamics to await from logistic-platforms. Their recommendations were the following:

- Developing a comprehensive territorial-planning around a land-use strategy;
- Anticipating demand for housing;
- Offering appropriate work-to-home transport solutions;
- Developing partnerships beyond the local territory;
- Building links with universities and research to anticipate the needs for training and recruitment;
- Increase logistic areas SKF (Success Key Factors).

In this manner, logistics will be truly and fully invested as a territorial planning tool and will continue to insure its function for corporate.

Abbreviations

CoBAS: Communauté d’Agglomération du Bassin d’Arcachon Sud (The South-Arcachon basin’s agglomeration community)
LHP: Local Housing Plan
PADD: Le Projet d’Aménagement et de Développement Durable (Planning and sustainable development project)
SAD: Strategic Activity Domains
SCM: Supply Chain Management
SKF: Success Key Factors
TM: Territorial Marketing

References

