

# Art, Finance and Logistics: Creative Combination for Economic Development

Thierry Houé

*ICN Business School - University of Lorraine / CEREFIGE, France*

The research focuses on the setting-up of a free zone strengthening the economic diversification of the Grand Duchy of Luxembourg. Dedicated to storage, handling and trading of high value items and in particular artworks and jewellery, The Luxembourg Freeport was inaugurated in September 2014. Using the Resource-Based View as theoretical framework, the paper aims to show what combinations of resources can have a positive impact on economic activities in connection with the Freeport. The research confirms that these activities go beyond pure logistical and operational sights. The findings highlight a triptych of resources justifying this location in an environment where art, finance and logistics seem to create a virtuous circle benefiting economic development of the country and promoting the rise of clustering effects.

**Keywords:** art, economic development, finance, logistics, resource-based view.

## 1. INTRODUCTION

The earlier economic and financial crisis has reminded the need for innovation and diversification of the Luxembourg economy. For nearly fifteen years, the Grand Duchy of Luxembourg have shown its commitment to the development of other sectors such as green economy, health, e-commerce and logistics (Murrath and Henzig 2007). Furthermore, due to the new regulation of international finance, the mutation of its financial place is ongoing (Prime et al., 2013). The article examines this strategy of diversification and modernization through the case of a Freeport opening alongside the international airport. Dedicated to the storage, handling and trading of high value items and in particular artworks and jewellery, The Freeport Luxembourg has started its operations in September 2014. Founded on the Resources-Based View (RBV), the research attempts to answer the following question. What resources' combinations can have a positive impact on the Freeport activities, thus promoting a new lever of attractiveness for Luxembourg? A qualitative study based on extensive documentary review and several semi-structured interviews supports the research. The field of study seems unusual and relatively infrequent in the academic literature (Rifai-Hasan, 2009). The second section is dedicated to a literature review explaining the use of the Resource-Based View (RBV) as theoretical framework. The third section deals with the attractiveness of Luxembourg and explains the links between the art market, financial services and logistics activities. The fourth section describes the case study and the methodology. The last section shows the findings and their discussion.

## 2. LITERATURE REVIEW

This section describe the principles of the Resources-Based View before explaining its relevance in the research context. We conclude with a clarification of the concepts of resource and capability used to the analysis of a geographical space.

### 2.1 FOUNDATIONS OF THE RESOURCE-BASED VIEW

Fundamental element of the strategic analysis (Newbert, 2007), the Resource-Based View has been presented over thirty years ago (Wernerfelt, 1984) and remains a relevant theoretical tool (Barney et al., 2011; Jang, 2013; West et al., 2018). Inspired by the work of Penrose (1959), Wernerfelt considers the resources of a company as tangible and intangible assets associated (semi-permanently) to the firm. This approach explains the differences in performance between organisations by the characteristics of the resources they hold. These differences are related to the creation and maintaining a sustainable competitive advantage. The most efficient firms catch rents based on an efficient use of their resources (Peteraf, 1993, Ray et al., 2004). The creation of these rents depends on market resources imperfections (Barney, 1986). Barney (1991) defines the essential characteristics of the resources required for sustaining competitive advantage and developing rents: valuable (the resources of the firm must be able to respond to opportunities and threats of the environment), rare (resources must be owned and controlled by a small number of competitors), inimitable (they should not be replicated easily and with low cost), non-substitutable (potential substitutes should not exist) and non-exchangeable. Later, Barney (1995) suggests an extension of the model by attaching the issue of the organisation. To be effective, the firm must also have an organisation allowing an efficient use of resources. At last, the Resource-Based View divides strategic management into four dimensions: the identification of rare resources in order to develop a competitive advantage; the protection of rare resources (e.g. by protecting them against imitation); their operations as financial income, their creation, adaptation and evolution due to the changing environment. Owning valuable and rare resources becomes a condition, but still insufficient to achieve a competitive advantage because resources must be efficiently used and organised in order to create this advantage. Resources should be consolidated to create the necessary capabilities that will be operated on the market (Sirmon et al., 2011).

Amit and Schoemaker (1993) tried to define the concept of resource. They distinguished resources and capabilities. Resources are negotiable and non-specific to the firm, while capabilities are specific and used in order to engage resources within the company (i.e. the process of the tacit knowledge transfer). Because of its prevalence in the literature, this distinction will be considered in the paper (Hoopes et al., 2003). For Makadok (2001), on one hand, capabilities are the organizational level of resources. They are integrated, non-transferable and distinctive. They encourage the development and productivity of the other resources of the firm. In some way, capabilities reflect the ability of resources deployment. On the other hand, resources are seen as stocks of available factors owned or controlled by the organisation. Prahalad and Hamel (1990) consider the competences of the firm as capabilities. They refer to the ability to organise the resources to achieve a goal. For Grant (1991), a competence relates to the ability of a set of resources to perform a task or an economic activity.

### 2.2 RBV AS A TOOL TO ANALYZE THE ATTRACTIVENESS AND GROWTH POTENTIAL

In this article, we have chosen to use the RBV as a diagnostic tool for identifying which resources of the country are considered as strategic to attract high value-added activities such as those of the Freeport. The idea is to identify resources giving a competitive advantage that can lead to the development of a system combining art, finance and logistics over the long term. This point of view seems particularly useful. The Resource-Based View of the firm has already been applied in territories analysis. The paper relies on other research using the RBV as a framework for analysing the attractiveness of a geographical area (Hervás-Oliver and Albors-Garrigós,

2007). The RBV allows understanding the place of a territory at the heart of the strategy of a firm, in order to deduce its attractiveness and its potential development. Coming from theoretical frameworks mobilized in strategic management (Foss and Ishikawa, 2007), the use of the Resource-Based perspective seems justified in the context of the strategic analysis of a firm or a territory. For both, the problem of the resources orchestration is essential to answer the question of the attractiveness and economic development.

### 3. ART, FINANCE AND LOGISTICS: TOWARD A VIRTUOUS CYCLE?

This section leads to clarify the economic strengths of Luxembourg. It also describes the art market with some key figures and explains the links between art, financial activities and logistics services. Finally, the purpose of this third section is to show the emergence of an “art-finance-logistics” virtuous circle related to the setting-up of the Freeport.

#### 3.1 STRENGTHS OF THE GRAND-DUCHY OF LUXEMBOURG

Neighbouring country of France, Belgium and Germany, with a total area of 2,586 km<sup>2</sup>, the population of the Grand Duchy of Luxembourg was 626,108 inhabitants on 1<sup>st</sup> January 2020 (Statistics Portal Grand-Duchy of Luxembourg, 2020). In thirty-five years, the residents have increased by 170,000 people. This exceptional growth is based on a strong immigration (about 296,000 foreigners live in the Grand Duchy). A long time dominated by the steel industry, the economy has been gradually diversified and transformed throughout the eighties (chemical industry, industrial equipment, international media, information technology and communication, e-commerce and health). Nevertheless, it is probably the growth of the activities of the financial centre that has been the most impressive.

The workforce demand in the industry is steadily decreasing while that of the tertiary sector is experiencing growth. In addition, 140,000 foreign workers cross the border daily to work in the Grand Duchy. Financial services activities represented some 26% of the Luxembourg Gross Domestic Product (GDP) and 11% of employment in 2018. This rate was about 8% for transport and logistics. (Chamber of Commerce of Luxembourg, 2019). In addition to financial and business services, transport and logistics represent a dynamic branch in the Luxembourg economy since employment has doubled over the past fifteen years and its share in the total value added of the economy now exceeds 10%. A more detailed analysis shows that this growth is largely due to air cargo services as well as road freight transport. Table 1 shows the greatest strengths of Luxembourg that emphasize its attractiveness.

Table 1. The specificities of the Grand Duchy of Luxembourg as a source of its attractiveness

Area, population and administrative organisation	Nature of the economic fabric	Main strengths for attractiveness
2.586 km <sup>2</sup> 626.108 inhabitants Lean administrative structure 3 Districts 12 Cantons 116 Cities	Open economy. 85% of production dedicated to export. 136 banks. 26% of GDP linked to its role as an international financial centre. 1st international private banking centre in the Eurozone. 2nd place for investment funds just after the US. 9th financial centre in the world.	Geographical location at the heart of the “Blue Banana”. Quality of transport infrastructure and telecommunication (fluidity, security). Availability of a skilled and multilingual workforce. Political and social stability. Existence of an attractive tax and legal environment. Multicultural environment internationally open. High quality of life.

Sources: Administration du Cadastre et de la Topographie, 2020 ; Chamber of Commerce of Luxembourg, 2019

### 3.2 ART MARKET

In order to understand its characteristics, this section is dedicated to a brief description of the art market. According to McAndrew (2019), the international art market reached €67.4 billion in total sales of art and antiques in 2018, up 6% year-on-year. There were significant differences between regions. China's sales contracted while the United States market driven growth. The European Union stays a stagnant region for the art market. These divisions in the market's performance by segment and region once again moderated aggregate annual changes. With their combined shares, US, UK and China counted for 84 % of the global market's total value. The volume of transactions reached 39.8 million in 2018, its higher level for ten years. This evolution was led largely by increasing sales by dealers and in the online sector, with fine art auction transactions declining slightly for the second consecutive year. The volumes of the global sales has still declined by 9% in the last decade.

Due to its volatility linked to economic and political uncertainties, the art market remains essential and attractive to investors. Nevertheless, profitability is rather limited and varies across studies between 2 and 7%. It is mostly from a tax point of view it might seem interesting (i.e. in France, the artwork does not enter into the calculation base of the wealth tax). The art market is complex and often requires the intervention of specialists in transactions. This complexity is materialized by a multitude of players as artists, collectors, auctioneers, galleries, antique shops, museums, sponsors, foundations or financial investors.

In fifteen years, the art market became highly globalized. New buyers, including Russian, Chinese, Indian, or coming from Arab states of the Persian Gulf are at the origin of this mutation. For Cerutti (2010), this globalization is also reflected in the new scale of art fairs (especially those devoted to contemporary art such as those of Basel, London, Paris and Miami) and the international development strategies deployed by major museums (Le Louvre, Guggenheim, etc.). Even if in the world of arts Luxembourg is not the well-known among the countries of the European Union, the art sector is strongly represented with the National Museum of History and Art, the History Museum of the City of Luxembourg, without forgetting the opening of the famous Musée d'Art Moderne Grand-Duc Jean (MuDAM) in 2006. The Casino- Luxembourg is itself recognized as an exceptional contemporary art forum.

### 3.3 PRIMARY ROLE OF THE FINANCIAL CENTRE AND THE TAX POLICY

About 26% of the GDP of Luxembourg depends on its international financial centre. Luxembourg is the second largest investment fund centre in the world just after the US. It is also the first captive reinsurance market in the European Union and the first private banking centre of the Eurozone. The financial sector remains a large contributor to the Luxembourg economy. From its origins, the country has developed as a private banking centre and then, from the 1980s, as a leading domicile for investment funds. The success of the financial centre is founded on the social and political stability of the Grand Duchy. Its modern legal and regulatory framework that is continuously updated, inspired by regular consultation between the government, the legislator and the private sector, is a significant strength and plays a key role for the attractiveness of the country. Over the years, specific regulatory frameworks have been created for alternative investment funds, venture capital investment funds, international pension funds, specialized investment funds, captive reinsurance companies, and covered bond issuing banks, securitization vehicles and family wealth management companies. Combined with Luxembourg's openness for international business, this legal framework has attracted banks, investment fund promoters, insurance companies, and many specialist service providers from all over the world (Luxembourg for Finance, 2014).

Regarding the art market, it is now highly monetised. Art is an alternative source of investment for financial diversification. Professionals of the financial sector (banks, investment fund promoters, consulting firms, etc.)

have understood this characteristic and now are already working to create new services for their customers (investment advice, funding art, art lending activities, etc.). From a tax perspective, the Act of July 28, 2011 in Luxembourg has offered a free zone regime specifically intended for valuables (piece of art, wines, and other valuable items). Thus, the Freeport benefits from a favourable tax and customs framework based on two principles: a temporary suspension of VAT and customs fees for extra- and intra-community property for the duration of storage; a temporary suspension of VAT on services supplied within the free zone in accordance with the Directive 2006/112 / EC (Glohr and Picinati di Torcello, 2011). This is an answer to a real need because the request for tax-free storage has increased for fifteen years. This financial and fiscal environment gives the country a new potential of attractiveness and new possibilities of growth with activities related to the art sector.

### *3.4 LOGISTICS AS A SPECIFIC SUPPORT ELEMENT*

In addition to the special nature of the art market, an artwork remains a specific product to package, transport and store. Because of their fragility and their financial and sentimental value, the artworks require precautions and distinctive competencies from the logistics service providers. In addition to their mandatory international stature, these providers are typically involved in the following operations. The packaging of the artworks is usually customized and often requires dedicated techniques and procedures. The items can be bulky, heavy and with various shapes. Moving an artwork is a delicate manoeuvre. Due to the global art market, transportation is usually international. The road transport operations require typical equipment (air-conditioned trucks, geolocation, alarm and intrusion detection systems). It is the same situation for other means of transport such as air cargo and shipping. Regarding transit, service providers must be experienced both to conduct effective logistics operations to facilitate their legal compliance (Customs) and also to advise the customer precisely. For the conservation, warehouses are generally located near airports. Security is optimal near this kind of area. A controlled temperature with permanent humidity and multiple storage levels can be offered (with collective or private rooms). Some other value-added services may complement previous operations: support for air cargo operations, insurance services, hanging, installation of sculptures or handling. Competitive such as the provision of traditional logistics services (Marasco, 2008), the international market for logistics artworks has several major players: Horus Finance Group with its three main subsidiaries in France with Andre Chenue SA Transports Monin, and in Germany with Dart Art Handling GmbH; Crown Worldwide Group through its subsidiary Crown Fine Art; the Swiss group Natural Le Coultre. Smaller companies are more oriented to domestic markets.

Since 2005, the Grand Duchy has been expanding its logistics expertise. The country has now more than 1,000 companies that employ nearly 18,000 workers in the logistics and transportation sector. Two large platforms are dedicated to the development of logistics activities. The Eurohub Centre is located to the East of the city of Luxembourg neighbouring the airport. The second one is located in the South, in Bettembourg / Dudelange (Eurohub South) near the A3 highway. Due to the scarcity and high price of land, the Government wants to encourage the implementation of internationally businesses offering innovative and high value added logistics services (airport services, multimodality, data-driven logistics, etc.). The aim is to take the opportunity to encourage many development initiatives in high-value added sectors (innovative information systems, new technical systems, etc.) (CES, 2019). The globalization of markets and production processes also brings out specific requests from players. New sophisticated and customized logistics solutions are now wanted by international companies. It is the development strategy that the Luxembourg Government decided to follow because the expansion of logistics and transportation sector is seen as an opportunity to create value (Chu, 2012).

### 3.5 SETTING-UP A FREEPORT IN LUXEMBOURG: STARTING-POINT FOR A VIRTUOUS CIRCLE OF DEVELOPMENT

The opening of a Freeport dedicated to artworks and high-value items in Luxembourg shows the ambition of the country for this growing sector. The operations within the Luxembourg Freeport are easy to understand. It is an area where the artworks can be stored or exchanged, enjoying a temporary duty-free before arrival to the final destination. This provision is particularly interesting in loans for an exhibition at a time when there is more and more exchange between galleries, museums and individuals. These characteristics reinforce monetisation of artworks by facilitating speculative practices. Considered in the waiting area in warehouses, they can exchange as equities without being physically moved. Finally, the arrival of forty investment funds seeking to diversify their investments has increased the demand for transactions (Picinati di Torcello and Petterson, 2013). The Act of July 28, 2011 has interested many players looking for expertise in the customs tax and financial environment to develop services truly adapted. Freeport is also a tool simplifying the work of logistics service providers. It does not impose a time limit for clearance or deposit of VAT, and allows re-export with the original invoice. Thanks to the Freeport, new specialised services can be offered. These include the temporary importation by a gallery with a deposit on behalf of the customer for the amount of VAT to Customs. It is planned to welcome in the area, a dozen different service providers (not just related to logistics), which would strengthen the diversity of activities. Finally, we believe that, due to the diversity of its links with several sectors strongly established in Luxembourg, the Freeport can be seen as a catalyst, a sort of synthesis of different levers of economic development characterised by financial, artistic and logistics clusters (Figure 1).

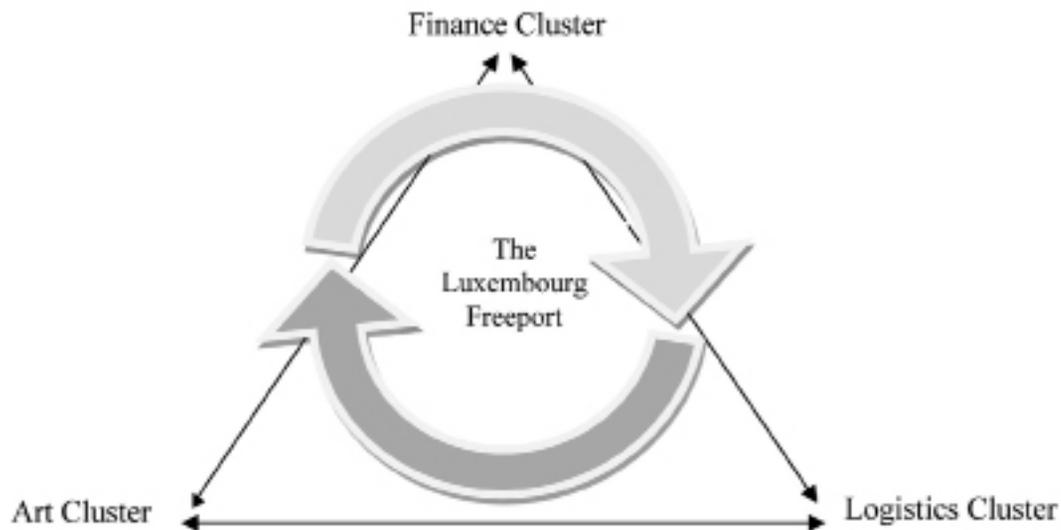


Fig. 1. The Luxembourg Freeport as a catalyst of three levers for economic development

We believe that the combination of these three levers enhances the competitive strategy of the Grand Duchy of Luxembourg by the existence of specific agglomeration effects (Rosenthal and Strange, 2003) or specific clustering effects (Porter, 1998, 2000; Delgado et al., 2016; Sheffi et al., 2019). The importance, variety and quality of services but also the strength of relational functions in metropolitan areas play a positive role in innovation and economic development (Gadrey 2003: 2005; Daniels, 2004). With the presence of companies in the field of financial and tax engineering (Deloitte, PwC, etc.), specific investment funds (Art Collection Fund, etc.) and with specialized handling services (Cargolux, Panalpina), Luxembourg provides a very helpful environment. For instance, born in June 2009, the Logistics Cluster Luxembourg institutionalized this dimension for logistics activities.

## 4. CASE STUDY AND METHODOLOGY

The fourth section describes the research field and explains the methodology.

### 4.1 CASE DESCRIPTION

The research is based on the analysis of the Luxembourg Freeport activities. The project was led by Yves Bouvier, CEO of the Swiss company Natural Le Coultre operating since 1859 in the transport and storage of luxury goods. The Luxembourg Freeport is a four floors building covering 22,000 m<sup>2</sup>. It has been officially in operation since 17<sup>th</sup> September, 2014. Multiservice platform for the storage, handling and trading of pieces of art and valuables, the Freeport Luxembourg represents an investment of approximately €55 million. The building is located near the Luxembourg International Airport. With a high security level and at the forefront of technology, it can accommodate a dozen of artworks and valuables logistics service providers, international forwarders, and art restoration services companies.

### 4.2 METHODOLOGY

A qualitative study was used for this paper. It is based both on the examination of the case of Freeport through a discourse analysis of important players as well as a work of literature review. This holistic approach (Eisenhardt, 1989) has required a structured research plan to observe precisely the different themes identified through questioning (Yin, 2018). A semi-structured interview guide was designed as a tool for investigation. It focused on identifying different technical, relational and processual resources and capabilities developed by the players of the territory, as well as their relationships with the free zone. Lasting 75 minutes in average, three in-depth interviews were conducted with the CEO of The Freeport Luxembourg, the Customs and Excise Agency (one of three tax authorities in Luxembourg, alongside the Luxembourg Inland Revenue and the Luxembourg Land Registration and Estates Department), and a Director of a consulting firm, a art business specialist. Simultaneously, documentary sources were analysed in addition to these interviews (articles of law, focused press articles, various reports, etc.). The analysis of the qualitative data was carried out in two stages. The first consisted in coding data from the transcripts (e.g. TR for Trust, etc.) of the interviews (data condensation) and the second stage consisted of structuring followed by analysis of data using the different matrices (data display). For Miles *et al.* (2014), coding data represents a significant stage of qualitative analysis because it leads to new ideas on what should be integrated into matrices. Conceptually clustered matrices proposed by Miles *et al.* (2014) were used to reduce, structure and analyse data in order to link them to the research question. This tool has been suitable to interpret respondents' comments, especially their motivations and attitudes. Key data from participants are grouped into three matrices in order to summarize how situation stand with regard to selected concepts, variables or themes of interest (Miles *et al.*, 2014). They incorporate various concepts such as tangible and intangibles resources, and capabilities.

## 5. FINDINGS AND DISCUSSION

This section provides a presentation of the main results of the study. Then, we present evidence outlining the territory as a collection of useful resources to develop a competitive advantage.

### 5.1 ELEMENT REINFORCING THE ATTRACTIVENESS AND A FUTURE DEVELOPMENT

The discourse analysis shows three broad factors of attractiveness justifying the implementation of the Freeport and promoting a development for activities related to the triptych art, finance and logistics. The reputation

of the financial sector in terms of management of investment funds has played an important role in the final location decision. For interviewees, a strong connection exists between Luxembourg financial centre and the art and valuables market. There are many interactions in a highly monetized market. These comments are similar to those of Boyer (2011) for whom the art market has always been intimately linked to the economic sphere and has become a real source of investment and asset diversification. Because of this symbiotic phenomenon, in addition to collectors and museums, end users targeted by this activity are clearly represented by the asset managers and funds. It could directly influence the growth of the Freeport in the future. The adoption of the 6266 Act in 2011 by the Luxembourg Parliament has been critical in the decision for the Freeport location (under suspension of VAT and customs duties). This special scheme is applicable as long as the artworks are stored in the area. The temporary importation for the purpose of exhibition does not affect the tax status of the pieces of art exposed. Services operated within the zone (packaging, art restoration services, photography, expertise, etc.) are exempt from VAT even shipments and sales of goods are always taxable. Note that these specific provisions to support zones are often found in other places. Luxembourg was in competition with other countries of the European Union. According to interviewees, voluntarism and timeliness of Luxembourg to support the project through a law entirely consistent with the requirements of European legislation on taxation, has positively influenced the final location decision.

The geographical location of the Grand Duchy played a significant role. The area has an immediate highway access. The project also benefited from a relatively low-cost land. In addition to its position at the heart of the Blue Banana and its recognized transport infrastructure quality, Luxembourg represents a complementary location of other Freeports belonging to the company Natural Le Coultre in Geneva and Singapore. The physical infrastructure of Geneva is impacted by some capacity limits. Because of this saturation, insurers are reluctant to insure artworks because of the increased risk related to too high concentration of values. In addition, the Luxembourg Freeport is unique in Europe and symbolizes an access to this market. For data management, the Grand Duchy holds systems and infrastructure necessary connected to the art market specifics, including a trusted operative electronic certification (Luxtrust). A public company favored the installation of a fiber optic network to high capacity between Luxembourg and access to foreign data centers (LuxConnect). With a processing capacity of about one million tons of cargo per year, the international airport is considered as a major international air hub. Supported by the activity of Cargolux, a significant player, and the presence of specific activities such as those of Champ Cargosystems (market leader in providing integrated software solutions for airfreight), Luxembourg owns a complete system dedicated to airport operations. Directly grafted to the airport, Freeport has direct access to the tarmac. This allows for a reduction in transport costs and handling and a limitation of risks during moving (theft, breakage, etc.). The airport area shows no sign of congestion. That is a strength face to the competition from other airports in Europe. The ability to mobilize a multilingual skilled workforce was also considered a major asset as part of the project. Since January 1<sup>st</sup> 2011, the circular LIR n°95/2 shall promote the attraction of highly skilled foreign workers and attract new international talents to the Grand Duchy, especially in very specific professions such as those related to art (art-work restoration, etc.).

Interviewees emphasize responsiveness, listening and constant support provided by the Luxembourg Government. For them, it is a key element for the setting-up as to the future growth of the Freeport. The good quality of the relationships between Customs and business should facilitate financial and logistical operations on the international art market. The Customs action is not limited to the collection of duties and taxes. The security dimension is also sought by the market players. The risks along the supply chain (Chopra and Sodhi, 2004) transform Customs as a key element of an efficient logistics system. Close cooperation between customs authorities and business is essential. In Luxembourg, it was built in strict adherence to the Community Customs Code. Organized by the Luxembourg Customs Authorities, information sessions show the will to move towards closer cooperation with companies. It materializes in the form of regular information on customs rules and by the creation of working groups about hot topics (paperless, etc.). The Freeport operates under the direct supervision

of the Customs and Excise which are physically located on the site with an unlimited right of inspection. Constructive and close ties are therefore a particular asset to expedite the processing and traffic flows. The highly close links between players in finance and logistics are also mentioned. The limited geographical space plays here a positive role in emulation of these relational phenomena (Torre and Rallet, 2005) and seems to have a positive effect on the joint knowledge creation (Malmberg and Power, 2005). But geographical proximity is not the only factor favouring the innovation dynamics in a cluster (Preissl and Solimene, 2003). Whether be geographical or only relational, different types of proximity are strongly linked to each other (Boschma, 2010). Even if it operates through diverse mechanisms, proximity increases the effectiveness of learning, has a positive impact on the production of knowledge-based externalities, and facilitates networking and clustering (Albino et al., 2007). Accordingly, Luxembourg owns an important advantage. The small size of its territory enhances spatial proximity with different players (public institutions, companies, etc.). On the other hand, Luxembourg has also developed a strong relational proximity in the fields of finance, art and logistics.

## 5.2 RESOURCES COMBINATION FOR AN ECONOMIC DEVELOPMENT BASED ON CLUSTERING EFFECTS

Following the initial analysis of the results from the qualitative study, we propose the description of a resources combination justifying the setting-up of the Freeport. By being able to support agglomeration effects, this system could be considered as a source of attractiveness for other activities affecting the financial, the logistical and the artistic sectors. This triptych of resources seems to provide a competitive advantage for the economic development of Luxembourg based on clustering effects in the long-term. Figure 2 describes this kind of creative combination and existing links between resources.

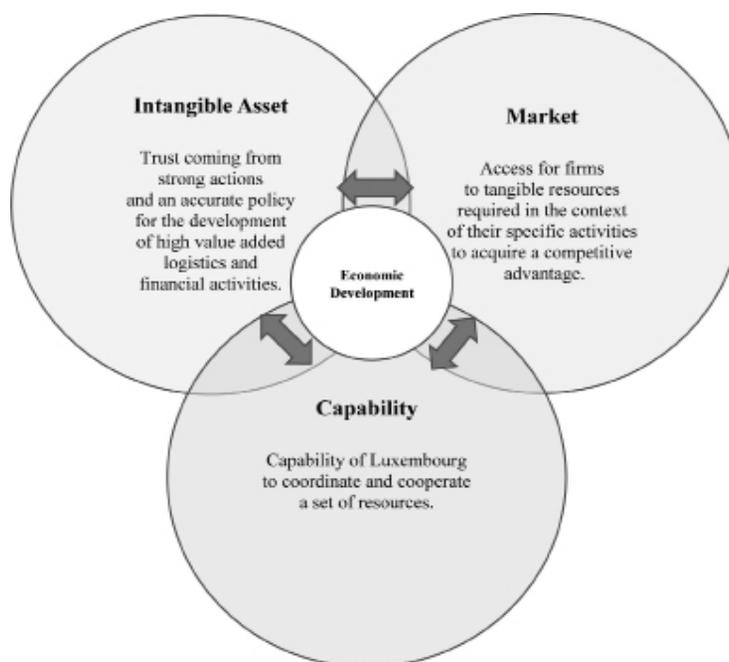


Fig. 2. Resources combination impacting economic development

The first resource described is an intangible asset (Hall, 1992; 1993). It takes the form of trust in Luxembourg public institutions, granted by the supporters of Freeport but also by the financial, logistical and artistic spheres. Trust is the result of past development activities related to finance, art and logistics. For fifteen years, a multitude of actions (opening of museums and galleries, vote for laws favouring the logistics value-added sector, clear

and consistent communication from national and local institutions, etc.) contributes to sustain a competitive advantage and generate a defensible position. This resource is tacit and difficult to transfer and / or imitate. It can provide a maintainable advantage as part of the attractiveness of these activities.

The second resource is a key competence of the Grand Duchy in the context of relational management with players in the financial and logistics sectors. These relations are embedded within private and institutional spheres. It is the ability of Luxembourg to coordinate and promote the exchange to a set of resources. The control and management of this network of relationships is the building blocks of that capability. There are kind of clustering effects generated by institutions and private companies. The official birth of the Logistics Cluster Luxembourg in 2009 is an example. The close and constructive collaboration between companies and Customs Authorities in Luxembourg can be probably regarded as another example. In addition, agglomeration externalities can lead to reduced costs and risks, and improve the spatial diffusion of knowledge. This situation can create a new asset for the country. The emergence of a real art-finance-logistics cluster would limit transaction costs (Williamson, 1975: 1985: 1991) by promoting relationships. These effects may increase the attractiveness phenomena. Finally, we consider this capability as difficult to transfer and / or imitate. It is understandable as a long-term strategic advantage.

The third resource is linked to a representation of Luxembourg as a space for access to strategic resources for the triptych art, finance and logistics. This space gives firms the ability to access a market of resources necessary for the proper functioning and deployment of their value-added activities in these sectors. Upcoming innovations created in the territory (new financial services, etc.) would increase the stock of knowledge for many companies as the territory itself. The dynamism and creativity of the financial centre and the quality of the storage infrastructure are two interesting examples because they are directly related to the activities of the art market. Within this resources market, institutions and infrastructure networks also play a significant role in the emergence of complementarities. We consider this resource as an element generally challenging to transfer and / or imitate in a medium-term. It can provide an advantage for the country. However, it is probably a resource that may disappear in a long-term view especially because of changing international financial regulation, or logistical capabilities of neighbouring countries.

Finally, we believe that these resources are complementary and interact with each other. Their combination provides a real value for investors and ensure a true attractiveness and development for the activities of the Freeport and those related to the triptych art, finance and logistics. We assume that this triptych of resources can promote clustering effects in the long run thanks to close interactions and the complementarity between the three dimensions. New industries and services could emerge thanks to this strong primary cluster environment represented by art, finance and logistics sectors in Luxembourg. This finding is quite similar to conclusions presented in the work of Delgado, Porter and Stern (2014) based on the role of regional cluster composition in regional industry performance. The results are starting to be visible. For two years, the activities of investment funds in the art have been increasing. Several banks are starting to offer financial products in the field of art. A large consulting firm works with the Luxembourg Government to create a real Art & Finance cluster in Luxembourg. The company already provides multidisciplinary services and tailor-made solutions for clients from the art and financial sectors.

## 6. CONCLUSION

Based on the Resource-Based View and the case of the Luxembourg Freeport, this paper reaches several conclusions. The research demonstrates the existence of a resources combination likely to support attractiveness of the Grand Duchy for activities related to the triptych art, finance and logistics. Three large complementary

resources emerge from the study. The trust appears as an intangible resource challenging to imitate by competitors. It can enhance the long-term development of the Freeport and the attractiveness for activities related to this triptych. The capability of the Grand Duchy within the territorial relationship management is a long-term resource hardly imitable and transferable. At last, Luxembourg symbolizes a precious space for access to a stock of strategic resources, but this can be imitable in the long-term.

Although it is too early to be sure, this situation could lead to the development of a clustering phenomenon. New data should be collected to confirm these conclusions in the future. Moreover, due the limited number of interviews, we must relativized these findings. The research needs extensions to strengthen the outcomes validity. The analysis is definitively static and does not take into account the quantitative and qualitative changes of the resources portfolio over time. A comparative study between territories (such as Geneva or Singapore, which also host the same type of business) may be appropriate in order to compare this combination of resources. It would be useful to add quantitative data analysis to strengthen the robustness of our conclusions. Despite these weaknesses, the research represents a good starting point to introduce a new approach beside a traditional economic development policy (Robinson, 2014). In addition, with the case of the Freeport, it deals with a topic still rarely analysed in the logistics literature.

## REFERENCES

- [1] *Administration du Cadastre et de la Topographie. Catalogue des unités administratives, Luxembourg 2020* - [https://map.geoportail.lu/theme/main?lang=fr&version=3&zoom=8&X=667917&Y=6394482&layers=&opacities=&bgLayer=basemap\\_2015\\_global](https://map.geoportail.lu/theme/main?lang=fr&version=3&zoom=8&X=667917&Y=6394482&layers=&opacities=&bgLayer=basemap_2015_global)
- [2] Alexy O., West J., Klapper H., Reitzig M., *Surrendering control to gain advantage: Reconciling openness and the resource-based view of the firm*, "Strategic Management Journal", 39 (2018)/6, pp. 1704-1727 - <https://doi.org/10.1002/smj.2706>
- [3] Albino V., Carbonara N., Petruzzello A. M., *Proximity as a communication resource for competitiveness: A rationale for a technology cluster*, "International Journal of Learning and Intellectual Capital", 4 (2007)/4, pp. 430-452 - <https://doi.org/10.1504/IJLIC.2007.016337>
- [4] Amit R., Schoemaker P. J. H., *Strategic assets and organizational rent*, "Strategic Management Journal", 14 (1993)/1, pp. 33-46 - <https://doi.org/10.1002/smj.4250140105>
- [5] Barney J. B., *Looking inside for competitive advantage*, "Academy of Management Executive", 9 (1995)/4, pp. 49-61 - <https://doi.org/10.5465/ame.1995.9512032192>
- [6] Barney J. B., *Firm, resources and sustained competitive advantage*, "Journal of Management", 17(1991)/1, pp. 99-120 - <https://doi.org/10.1177/014920639101700108>
- [7] Barney J. B., *Strategic factor markets: expectations, luck and business strategy*, "Management Science", 32 (1986)/10, pp. 1231-1241 - <https://doi.org/10.1287/mnsc.32.10.1231>
- [8] Barney J. B., Ketchen D., Wright M., *The future of resource-based theory: Revitalization or decline?*, "Journal of Management", 37 (2011)/5, pp. 1299-1315 - <https://doi.org/10.1177/0149206310391805>
- [9] Boschma R., *Editorial: Role of proximity in interaction and performance. Conceptual and empirical challenges*, "Regional Studies", 39 (2010)/1, pp. 41-45 - <https://doi.org/10.1080/0034340052000320878>
- [10] Boyer C. M., *The market for fine art and the economy*, "The Journal of Wealth Management", 13 (2011)/4, pp. 77-83 - <https://doi.org/10.3905/jwm.2011.13.4.077>
- [11] Cerutti G., *Mutations du marché mondial de l'art, paradoxes du marché français*, Commentaire, 131 (2010), pp. 773-778.
- [12] CES, *Le transport de marchandises et le secteur de la logistique au Luxembourg, Perspectives économiques sectorielles à moyen et long termes dans une optique de durabilité*, Conseil Economique et Social, Luxembourg 2019.

- [13] Chamber of Commerce of Luxembourg, Économie du Luxembourg: Ouverte, dynamique, fiable, CCL Luxembourg 2019 - [https://www.cc.lu/uploads/tx\\_usercc\\_publications/web\\_FR\\_brochure\\_eco\\_lux\\_0517\\_CDC.PDF](https://www.cc.lu/uploads/tx_usercc_publications/web_FR_brochure_eco_lux_0517_CDC.PDF)
- [14] Chopra S., Sodhi M. S., *Managing risk to avoid supply chain breakdown*, Sloan Management Review”, 46 (2004)/1, pp. 53-61.
- [15] Chu Z., *Logistics and economic growth: a panel data approach*, “The Annals of Regional Science”, 49 (2012)/1, pp 87-102 - <https://doi.org/10.1007/s00168-010-0434-0>
- [16] Daniels P. W., *Reflections on the “Old” Economy*, “New Economy, and services. Growth and Change”, 35 (2004)/2, pp. 115-138. <https://doi.org/10.1111/j.0017-4815.2004.00242.x>
- [17] [Delgado M., Porter M. E., Stern S., *Clusters, convergence, and economic performance*, “Research Policy”, vol. 43 (2014)/10, pp. 1785-1799 - <https://doi.org/10.3386/w18250>
- [18] Delgado M., Porter M. E., Stern S., *Defining clusters of related industries*, ‘Journal of Economic Geography’, 16 (2016)/1, pp. 1-38 - <https://doi.org/10.3386/w20375>
- [19] Dif J., Joachim J., Bellony K., *Le port franc au Grand-Duché du Luxembourg, un nouveau pôle logistique pour les biens de grande valeur au sein de l’Union Européenne*, ACE, (2013)/6, pp. 16-23.
- [20] Eisenhardt K. M., *Building theories from case study research*, “Academy of Management Review”, 14 (1989)/4, pp. 532-550 - <https://doi.org/10.2307/258557>
- [21] Foss N. J., Ishikawa I., *Towards a dynamic resource-based view*, “Organization Studies”, 28 (2007)/5, pp. 749-772 - <https://doi.org/10.1177/0170840607072546>
- [22] Gadrey J., *Socio-économie des services*, \. *La Découverte*, 3<sup>rd</sup> edition, Paris 2003.
- [23] Gadrey J., *Un demi-siècle de montée des services: la révolution permanente*, ‘Le Mouvement Social, 211 (2005), pp. 21-36 - <https://doi.org/10.3917/lms.211.0021>
- [24] Glohr R., Picinati di Torcello A., *Zone franche : un nouvel atout pour la place financière luxembourgeoise*, [in:] *Rapport mensuel AGEFI Luxembourg*, Luxembourg, September 2011, p. 15.
- [25] Gutiérrez X., Hintsa J., Wieser P., Hameri A.-P., *Voluntary supply chain security program impacts: An empirical study with BASC member companies*, “World Customs Journal”, 1 (2009)/2, pp. 31-48.
- [26] Grant R. M., 1991, *The Resource-Based theory of competitive advantage: Implications for strategy formulation*, “California Management Review”, 33 (1991)/1, pp. 114-135 - <https://doi.org/10.2307/41166664>
- [27] Hall R., *A framework linking intangible resources and capabilities to sustainable competitive advantage*, “Strategic Management Journal”, 14 (1993)/8, pp. 607-618 - <https://doi.org/10.1002/smj.4250140804>
- [28] Hall R., *The strategic analysis of intangible resources*, “Strategic Management Journal”, 13 (1992)/2, pp. 135-144 - <https://doi.org/10.1002/smj.4250130205>
- [29] [29] Hervás-Oliver J. L., Albers-Garrigós J., *Do clusters capabilities matter? An empirical application of the resource-based view in clusters*, “Entrepreneurship & Regional Development: An International Journal”, 19 (2007)/2, pp. 113-136 - <https://doi.org/10.1080/08985620601137554>
- [30] Hoopes, D. G., Madsen T. L., Walker G., Guest editors’ introduction to the special issue: Why is there a Resource-Based View? Toward a theory of competitive heterogeneity, “Strategic Management Journal”, 24 (2003)/10, pp. 889-902 - <https://doi.org/10.1002/smj.356>
- [31] Jang S. H., *The offensive framework of resource-based view (RBV): Inhibiting others from pursuing their own values*, “Journal of Management and Strategy”, 4 (2013)/1, pp. 62-69 - <http://dx.doi.org/10.5430/jms.v4n1p62>
- [32] [32] Luxembourg for finance, *Why Luxembourg? Agency For the Development of The Financial Centre*, Luxembourg 2014 - <http://www.luxembourgforfinance.com/why-luxembourg>
- [33] [33] Makadok R., *Toward a synthesis of the Resource-Based View and Dynamic-Capability views of rent creation*, “Strategic Management Journal”, 22 (2001)/5, pp. 387-401 - <https://doi.org/10.1002/smj.158>
- [34] Malmberg A., Power D., *(How) Do (Firms in) clusters create knowledge?*, “Industry and Innovation”, 12 (2005)/4, pp. 409-431 - <https://doi.org/10.1080/13662710500381583>

- [35] Marasco A., *Third-party logistics: A literature review*, "International Journal of Production Economics", 113 (2008)/1, pp. 127-147 - <https://doi.org/10.1016/j.ijpe.2007.05.017>
- [36] McAndrew C., *The Art Market 2019*, Art Basel-UBS, Zurich 2019.
- [37] Miles, M. B., Huberman A. M., Saldaña J., *Qualitative data analysis: A methods sourcebook*, 3<sup>rd</sup> edition, Sage Publications, Thousand Oaks 2014.
- [38] Murrath A., Henzig L., *Le secteur logistique: promouvoir le potentiel au Luxembourg*, 'Lëtzebuurger Land', 2007, January 5<sup>th</sup>
- [39] Newbert, S. L., *Empirical research on the resource-based view of the firm: An assessment and suggestions for future research*, "Strategic Management Journal", 28 (2007)/2, pp. 121-146 - <https://doi.org/10.1002/smj.573>
- [40] Penrose E., *Theory of the growth of the firm*, John Wiley, New York 1959.
- [41] Peteraf M., *The cornerstones of competitive advantage: A Resource-Based View*, "Strategic Management Journal", 14 (1993)/3, pp. 179-191 - <https://doi.org/10.1002/smj.4250140303>
- [42] Picinati di Torcello A., Petterson A., *Art and Finance Report 2013*, Deloitte & ArtTactic, Luxembourg–London 2013.
- [43] Porter M. E., *Clusters and the new economics of competition*, "Harvard Business Review", 76 (1998)/6, pp. 77-90 - <https://hbr.org/1998/11/clusters-and-the-new-economics-of-competition>
- [44] Porter M. E., *Location, competition and economic development: Local clusters in a global economy*, "Economic Development Quarterly", 14 (2000)/1, pp. 15-34 - <https://doi.org/10.1177/089124240001400105>
- [45] Prahalad C. K., Hamel G., *The core competence of the corporation*, Harvard Business Review", 68 (1990)/3, pp. 79-91 - [https://doi.org/10.1007/3-540-30763-X\\_14](https://doi.org/10.1007/3-540-30763-X_14)
- [46] Preissl B., Solimene L., *The dynamics of clusters and innovation*, Physica-Verlag, Heidelberg–New York 2003.
- [47] Prime D., Neyens P., Meunier A., *Le Luxembourg et la nouvelle donne financière*, PwC Luxembourg, 'Entreprises Magazine', (2013)/11 - <http://www.pwc.lu/en/press-articles/2013/le-luxembourg-et-la-nouvelle-donne-financiere.jhtml>
- [48] Ray G., Barney J. B., Muhanna W. A., 2004, Capabilities, business processes, and competitive advantage: choosing the dependent variable in empirical tests of the resource-based view, "Strategic Management Journal", 25 (2004)/1, pp. 23-37 - <https://doi.org/10.1002/smj.366>
- [49] Rifai-Hasan P. A., *Development, power, and the mining industry in Papua: A study of freeport indonesia*, "Journal of Business Ethics", 89 (2009), pp. 129-143 - <https://doi.org/10.1007/s10551-010-0371-y>
- [50] Robinson D. J., *Economic development from the state and local perspective: case studies and public policy debates*, Palgrave Macmillan, New York 2014.
- [51] Rosenthal S., Strange W., *Geography, industrial organization and agglomeration*, "Review of Economics and Statistics", 85 (2003)/2, pp. 377-393 - <https://doi.org/10.1162/003465303765299882>
- [52] Sheffi Y., Saenz M. J., Rivera L., Gligor D., New forms of partnership: the role of logistics clusters in facilitating horizontal collaboration mechanisms, "European Planning Studies", 27 (2019)/5, pp. 905-931 - <https://doi.org/10.1080/09654313.2019.1575797>
- [53] Sirmon D. G., Hitt M. A., Ireland R. D., Gilbert B. A., *Resource orchestration to create competitive advantage: Breadth, depth and life cycle effects*, "Journal of Management", 37 (2011)/5, pp. 1390-1412 - <https://doi.org/10.1177/0149206310385695>
- [54] Statistics Portal Grand-Duchy of Luxembourg, Population by detailed nationalities 2011-2020, Luxembourg 2020 - [https://statistiques.public.lu/stat/TableViewer/tableView.aspx?ReportId=12859&IF\\_Language=fra&MainTheme=2&FldrName=1](https://statistiques.public.lu/stat/TableViewer/tableView.aspx?ReportId=12859&IF_Language=fra&MainTheme=2&FldrName=1)
- [55] Torre A., Rallet A., *Proximity and localization*, "Regional Studies", 39 (2005)/1, pp. 47-60 - <https://doi.org/10.1080/0034340052000320842>
- [56] Wernerfelt B., *A resource-based view of the firm*, "Strategic Management Journal", 5 (1984)/2, pp. 171-180 - <https://doi.org/10.1002/smj.4250050207>

- [57] Williamson O. E., *Market and hierarchies: analysis and antitrust implications. A study in the economics of internal organization*, Free Press, New York 1975.
- [58] Williamson O. E., *The economic institutions of capitalism: firms, markets, relational contracting*, Free Press, New York 1985.
- [59] Williamson O. E., *Comparative economic organization: The analysis of discrete structural alternatives*, "Administrative Science Quarterly", 36 (1991)/2, pp. 269-296 - <https://doi.org/10.2307/2393356>
- [60] Yin R. K., *Case study research and applications: Design and methods*, 6<sup>th</sup> ed., Sage Publications, Thousand Oaks 2018.

**Dr Thierry Houé**  
**ICN Business School – University of Lorraine/CEREFIGE, France**  
**[thierry.houe@icn-artem.com](mailto:thierry.houe@icn-artem.com)**