Globalizing the firm through projects : The Case of Renault

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Globalizing the firm through co-operative projects: The Case of Renault

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Abstract: Over the past decade, the automotive industry has been the arena of concentration and globalization of firms. While strategies aiming to attain a critical mass through external growth and international expansion programs are not new in this sector, the magnitude and global extent of this movement have reached an unprecedented level during the 1990's.

Although this trend would apparently seem homogeneous and guided by a kind of fashion phenomena, a fine-grained analysis of the dynamics of today's firms reveals, instead, a significant variety of patterns. Since the globalization of a firm is just one attribute of its complex identity associating different dimensions, it raises some important questions. How will the globalization issue be articulated with the other key dimensions of a firm? How will this development axis be integrated with the firm's own traditions? In the same way that typologies of organisations have been identified, is it possible to characterise both the diversity of globalization processes and the firm's globalization model?

This paper aims to address these questions by analysing the Renault case. Firstly, we provide a conceptual framework based upon organisational learning theories to explain the dynamics of the firm. Secondly, we argue that four globalization trajectories should be distinguished: the traditional model based on the dominant market, globalization through projects, functional lines and platforms. Each trajectory will be described and compared. Finally, in the last section, we illustrate the globalization trajectory through projects with intermediate results of an ongoing research on the Renault and GME partnership for the joint development of a new light commercial vehicle. Using interactive-research methods, the aim of this research is to experiment several organisational devices in order to develop and promote collective competencies in the management of international co-operative projects, throughout the organisation. We conclude by giving some managerial implication of our findings and directions for further research.

Keywords: globalization, joint development, organisational learning

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1 Introduction

The auto industry is one of the sectors that saw a spectacular wave of globalization and corporate restructuring in the 1990s (mergers, acquisitions, strategic alliances, industrial co-operation, as well as spin-offs and exit). Internationalisation strategies and the importance of size are of course not new features of this sector, but the changes seen in the 1990s were unprecedented in their scale and their generalised character, giving the impression of a fashion phenomena that has swept all company strategies along in its wake. A more in-depth analysis of the various automotive groups, however, shows some definite variation in their current dynamics. The extent of a company's globalization is ultimately only one feature of a complex identity made up of different variables. How does globalization relate to the other key variables? How does this development path fit in with the traditions specific to each company? Is it possible to describe and classify the various globalization processes and the different types of globalized firms, in the same way that organisational and corporate typologies have been developed? These are the questions that we would like to address in this paper.

The firm Renault is a particularly interesting case to examine from this perspective. The company's identity has been forged on the primacy of the product (in the sense that the various components of its product range are tightly integrated around an unusual, innovative goal). The 1980s and 1990s saw the development and testing of an organisational identity that was capable of successfully challenging the competition by relying on strong points other than scale effects: strong product identity, rapid renewal of the product range and a strong capacity for innovation. Commercial successes like the Espace, Twingo and Scenic models demonstrated both the viability of this strategy, in contrast to conventional strategies based on economies of scale, and Renault's ability to carry it through. In this light, the company's external growth in the last half of the 1990s may seem to be a paradoxical about-face, since it could have marked Renault's alignment with the classic strategies of its main competitors and the abandonment of a path in which the company had excelled and which had proved effective in competition. How then could globalization be carried out in a way that relies on and makes use of the specific strengths associated with the company's traditions, while remaining open to new learning opportunities? This paper will seek to provide answers to this question in light of the joint research conducted over the last two years by Renault and the Centre de Recherche en Gestion of the École Polytechnique (CRG).

We will begin by setting forth the theoretical approach to corporate dynamics that underpins this paper, a theoretical framework centred on the concept of organisational learning. This viewpoint leads us to advance the following hypothesis: automobile manufacturers seem to be following different globalization trajectories. Our findings suggest that four different paths of globalization can be distinguished: the traditional model of internationalisation based on a dominant market, and globalization based on projects, on functions and on platforms. Furthermore, we will characterise the various globalization trajectories, showing their specific features, their significance and the problems they raise.

The second part of this paper will examine the specific case of Renault. One of the major characteristics of the past and current identity of Renault is its capacity to renew and vary its product offer based on an understanding of the needs and latent expectations of its customers. The development of the project function was the decisive organisational lever for translating this strategy into practice, as it focused energies and skills on developing product compromises that were coherent, innovative and "reasonable" [1]. How can this path be pursued at the level of the globalized firm? How can project requirements be reconciled with the intrinsic demands of international co-operation with other firms during the course of development? What tensions might arise if integration by projects, by functions and by platforms were to be implemented concomitantly?

To answer these questions, we have undertaken a joint research between Renault and the CRG. The aim of the research is to test different organisational arrangements for defining, establishing and disseminating within the company a collective expertise in the management of international co-operative projects. Using a longitudinal interactive research approach, we have been able to follow the dynamics of inter-firm co-operation throughout the life cycle of a joint product development: the X-83 project between Renault and GME in the Light Commercial Vehicles (LCV) business. For the CRG, this research is part of a work program conducted for several years on transformations in corporate design systems, which explores in particular the question of inter-company relations concerning the design process [2, 3, 4, 5].

2 Globalization: Learning paths and new firm identity

2.1 A framework based on organisational learning

The theoretical perspective that we will use to analyse industrial dynamics is centred on organisational learning [6,7]. This perspective emphasises the openness of organisational dynamics (as opposed to viewpoints in which the dice are cast as soon as strategies are announced) and the central role played by the learning generated during change. It stresses the collective and historical (or institutional) character of the way strategies are formulated and evaluated, and the close interweaving of the cognitive and political dimensions of the process of change.

We have shown [7,8] that this approach to change leads to an emphasis on one of the dilemmas of organisational dynamics, the balance between the coherence and the relevance of the processes of institutional action.

Indeed, according to Midler [9], two very different principles can underpin efficiency. For the one side, effective co-ordination between different subsystems (sales, research, production, etc.) is based upon anticipated behaviour of the different members of the organisation that, in turn, relies on their agreement to established procedures. Indeed, formal roles, structures, processes, common knowledge and habits have been found to be key factors to perform effective co-ordination. We call this phenomenon the coherence principle of organisational efficiency. For the other side, the examination of the internal functioning of organisations reveals that internal coherence is subject to unpredictable changes in the environment in which they evolve. Therefore, to incorporate the impact of external judgements into the procedural rationality dimension, the principle of relevance had been introduced. The coherence and relevance principles are anthagonic in the extent that relevance calls into question permanently the cognitive artefacts.

The questions we have raised about the dynamics of Renault are wholly in keeping with this theoretical framework. Because of the characteristics of the automotive industry, economies of scale and the globalization of activity give an undeniable competitive advantage with regard to the cost factor. At the same time, in recent years there has been a strong, rapid correlation between results and the success of new models, indicating the decisive character of product differentiation and appeal. When strategies based on niche products find their clientele, vehicles with no outstanding advantage other than price are quickly outclassed. Underlying these two strategic criteria is the saturation of solvent markets, which is leading, on the one hand, to price wars over relatively similar products and, on the other, to dizzying customer switches between products that are in abundant supply, ever more varied, and ever more frequently renewed.

Approaches that put extreme emphasis on one of these two criteria, implementing an excessively consistent strategy, have shown their limitations [10]. For instance, the global car is still a myth, and those who moved in that direction have now pulled back; similarly, strategies that rely overly on niche products, even when supported by exceptional design skills, are vulnerable because they are at the mercy of changes in fashion, competitor mimicry or a temporary lack of inspiration in finding the key to future successes.

Hence the search for a dynamic that can bring these conflicting approaches together to form a single relevant trajectory. For instance, after the crisis and retrenchment at Renault in the mid-1980s, the company's general management reaffirmed the two goals of generating ambitious products (by giving priority to quality and to the development of innovative products) and greater volumes (through globalization) — a "profitable growth" strategy that was widely discussed in the media. However, following the failed merger with Volvo, this was not implemented on a large scale until the opportunity came to take a stake in Nissan. This delay in application gave rise at times to the mistaken impression of a strategic change in the mid-1990s. From another angle, it also supported the view that there was a permanent gap between the company's strongest competitive advantages at a given time and the path it was taking to build its future. It is only afterwards, if then, that consistency can be seen in the form of relatively "complete" models.

The organisational learning approach thus leads us to formulate two questions concerning how to guide these dynamics:

- in which directions should these dynamics be steered not only to extend the company's life, but also to explore all the relevant possibilities for its future?
- how can the skills needed to grasp these new opportunities be recognised, developed, deployed and made part of an ever-expanding organisation [11]?

These two questions will now be considered while exploring Renault's globalization.

2.2 Alternative paths to globalization: co-operation based on functions, projects and platforms.

The literature on multinational firms is extremely rich and varied in its theoretical roots. Despite this apparent diversity, it is possible to identify different pathways on how firms learn to globalise.

For instance, Doz [12] observed two specific traits that are shared by most of traditional multinational firms:

- The experience of developing product, services, technologies, systems and know-how in the home base are leveraged by selling, distribution, and producing these goods on a global basis. This strategy enables the firm to obtain scale economies and manage goods, systems and people on a global basis. It also allow it to service multinational customers and penetrate protected markets by using its global resources.
- High value added activities- for instance, R&D, product design, marketing, strategy, coordination, systems development, and finance- are reinforced at home and production or back-office function are relocated to gain access to cheap labor and raw material in the developing world.

In other words, the standard route to corporate globalisation relies on a "projecting approach" [12]: leading from the strength of the home base and seeking new markets potential and cost advantages abroad. This model is characterized by the following stages:

- Stage 1: The firm's growth in its native country;
- Stage 2: Internationalisation based on exporting the native model;
- Stage 3: Adjustment of balances and gradual cross-pollination between entities in different countries, in accordance with their relative importance.

This path, which represents the way most companies internationalised from the 1950s to the 1980s, is far from the only one today. On the one hand, history is accelerating: the standard trajectory is based on a much slower growth model than that which motivates mega-alliances like those between Renault and Nissan or Daimler and Chrysler. These giant alliances must from the outset develop a symmetry that is not found in the standard scheme. On the other hand, some companies, such as Nokia and Lectra System, plan their development on a global basis right from the start, setting-up relationships between production, R&D and distribution units located in various countries.

We will describe three different pathways to globalization that stand out in the recent dynamics observed in the automotive industry. The first is based on integrating certain functions of co-operating firms; in the second, inter-company co-operation focuses on joint projects for product development; and in the third, co-operation is based on the concept of a platform.

- *Globalization based on functions*

This is a co-operative process involving exchanges between the managers for certain functions in one firm and their counterparts in the other. This process is relatively new and has developed considerably, especially in the key function of purchasing. Often implemented as a result of a merger & acquisition or a strategic alliance between two automotive firms, the aim of this approach is to integrate one particular function which is common to both firms (purchasing, after sales, logistics and distribution, etc..). The primarily objectives are to avoid function overlapping or redundancy, gain scale effects to the suppliers or, after having identified areas of complementarity, enhance mutual learning. The joint purchasing arrangements between GM and Fiat and between Renault and Nissan are typical examples of this mode of globalization.

The merge of functional areas is generally implemented by inter-organisational functional teams that make an in-depth comparison of respective procedures, good practices and organisational routines. Then, these teams are reinforced by cross exchanges of managers in order to accelerate the process. Commonly, this method of integration conduces to a redefinition of the perimeters and missions of each unit in order to obtain the maximum complementarity and specialisation. This functional approach is very ambitious, in terms of cross learning and mutual adjustment between the two firms but it can be also very costly and time consuming in negotiation processes.

- *Globalization based on projects*

This path to globalization refers to industrial co-operation based on a contract that involves sharing the risks and resources needed to develop a vehicle, a subassembly or simply one of the intermediate stages of a new product development (joint research, development, production or distribution). A noteworthy feature of such agreements is that they do not entail an exchange of capital, as each company maintains its own independence, with the companies being linked by a mere contract or investment in a joint venture. For example, co-operation between PSA and Fiat to co-develop and co-manufacture a new generation of utility vehicles ultimately led to the founding of SEVEL, in which the two groups have equal shares. Nevertheless, both groups remain fully independent and without equity participation.

Integration through projects would seem, a priori, to be a modest approach in comparison with the preceding form of co-operation. This is obviously a limitation of this route, but it is at the same time one of its advantages.

- Co-operation that is limited in time and limited to a single product: Project-driven co-operation is characterised by the fact that the product is often the main motivation for inter-firm collaboration. Indeed, firms might seek to develop a whole product in order to compensate their weakness in certain markets, cope with financial constraints, share risks or overcome entry barriers. Not only is the co-operation centred in the product but it is also generally bounded in a specific time-frame and geographical scope.
- Project relevance to apply trade-off principles that finalises negotiations between the participants using external criteria, namely those of customers and the competition. One of the problems of co-operation is that it can require the expenditure of considerable time and energy on mutual understanding and internal negotiations, thus diverting the participants from the external situation they need to face. Implemented since late 1980's, heavy weight project management structures allowed reintroducing in an unavoidable way the customer judgement and rival products inside the automotive firms. The autonomy of the project management is, thus, a favourable factor

for reducing diversionary factors specific to the companies and pushing for convergence on solving the relevant problems.

- The specific nature of projects as a resource for a different approach to negotiating functional traditions. A direct functional comparison between co-operative firms often reveals profoundly different conceptions. This will eventually lead to sharp confrontations and difficult negotiations, due to the deep-seated sense of identity of the professionals involved. One of the cornerstones of project management is emphasising the specificity of the situation instead of applying the standard doctrine of a given functional line. An expert will more easily accept an unfavourable decision if it seems to be due to the contingencies of the particular project rather than a rejection of his art, as in the former case he will not have been subjected to a comprehensive, binding negative judgement.

Taking this route obviously depends on the existence of an efficient project culture in the firm, which is indeed the case for Renault, and on a capacity to implement this in international co-operation. In addition, it raises the question of financial or structural mechanisms in order to ensure partnership longevity.

- *Globalization based on platforms*

The platform emerged as a key concept in automotive industry strategy during the second half of the 1990s. Almost all automobile manufacturers have a platform that they use for various models of vehicle, both under a single brand and across brands. For instance, this strategy led the PSA Group to structure its manufacturing system around platforms for its two brands, Peugeot and Citroen. VAG is probably the company that most clearly illustrates how this concept can be used as a matrix for a firm's globalization.

The platform approach [13,14,15], is based on a development logic subdivided into two phases. Firstly, a standardised product called platform is developed. It could be an intermediate product or a product already designed. Secondly, the platform is used as the starting point for development projects in order to create derivative products that will be sold in one or several market segments, brands and/or geographical locations. The advantages of this strategy are quite obvious. For one side, scale effects are obtained thanks to standardisation and, for the other side, multi-project learning tracks can occur based on the platform concept, so that risks associated to new product introduction are reduced by using proven technology (repeated innovation strategy). However, the concept of platform is vague and can vary significantly from one firm to the another. Moreover, recent research in the electronic industry [2] highlighted the difficulties of implementing this strategy. Finally, some important and specific problems arise in a multi-project / multi-firm environment.

- The platform is a multi-function object (product & process engineering and purchasing). The development of a platform is carried generally in the advanced engineering department by a multi-functional team formed, not only, by engineering (product and process) but also purchasing and product planning representatives. However, the compromises between engineers and technicians are very difficult to achieve, mainly because the project team is not yet constituted and the lack of heavy weight project director. Furthermore, this tends to be amplified by the fact that the platform should meet the requirements of different markets, specifications or customer expectations.
- Leadership of the platform and power relations in the co-operation process. Platform strategy relies on a strong central product planning function that ranks the different priorities, giving little freedom to each brand to decide autonomously its product range, characterises firms using intensively the platform strategy. Project specificity as brand identity are important and difficult to manage in globalization process based on platforms.
- Platform schedules and product schedules. Pace of product introduction is a critical issue in the automotive industry and time to market is source of competitive advantage. However, application product and platforms may not be synchronised with the demands of customers. This situation is even worse in a multi-firm environment were both product planning should be harmonised in order to take advantage of this strategy. As depicted in the Figure 1, a platform development project might not be terminated, when a development project has to start. Thus, product-planning managers should decide whereas they should use the "old generation" or wait for the "new generation" of platforms.

FIGURE 1 ABOUT HERE

3 Developing skills in the management of international co-operative projects: lessons from the Renault case

This section explores the process of learning and capability building from a co-operative project. Data are extracted from a longitudinal study of the Renault and General Motors Europe (GME) partnership in the LCV business. We first examine the genesis of this co-operation, underlying the motivations and the conditions favouring its emergence as well as the results of the contractual agreements. This analysis reveals the difficulties Renault encountered in finding an ally and the way that different motivations converged towards a common strategy. Next, we examine how the co-operation unfolded over time and the type of difficulties that faced the joint project team. Through this in-depth analysis, three clusters of difficulties emerged: i) mutual understanding; ii) equity between partners; iii) the instability of the inter-organisational co-operative process. Finally, this section reviews the approach used by Renault in order to develop a new expertise in the management of international projects. This move is consistent with the findings of Fujimoto [16], who found evidence that firms are increasingly relying in capabilities acquisition, initiating an era of "capability competition".

3.1 The X-83 project between Renault and GME

The X-83 project arose from a co-operative effort between Renault and GME in the field of utility vehicles. It involves the joint development of a new utility vehicle that is positioned on the LCV, which is a sector that, as we shall see below, is an especially favourable and active one in terms of inter-firm co-operation.

The setting phase of the co-operation: screening strategic opportunities with high uncertainty

This co-operative effort dates back to the late 1980s, a period in which Renault was already attempting to renew its product range in the utility vehicles market segment. The French manufacturer already had a long history and a well-established position in the European market for utility vehicles, and had maintained its position as market leader in terms of sales volume for over 20 years. Its product line consisted mainly of the Master, the Trafic and the Express, which were positioned, respectively, on the heavy van, medium van and micro van segments.

In the early 1990s, the combined impact of an ageing range and heightened competition in the sector led to the first signs of what would prove to be a gradual decline in sales lasting until mid-1997. Despite Renault's desire to rejuvenate the product line, the matter was put off due to the temporary financial difficulties the manufacturer was experiencing in the early 1990s and the marginal importance of the utility vehicles market. The deferral of this decision was due in part to the specific features of utility vehicles. They are aimed at a varied clientele, including individuals, craftsmen, companies and government; the segment includes a wide range of vehicles; and these vehicles are available in a variety of lengths, heights, engines, body styles and even architectures (front- or rear-wheel drive). This great diversity is one of the intrinsic features of this segment [17]. Moreover, utility vehicles are larger than passenger cars, and are frequently manufactured in sites that are dedicated or, at least, well-suited to them (e.g., specific paint shop). Finally, production volumes are substantially lower than those for passenger cars, which puts significant financial constraints on manufacturers. Thus, a relatively straightforward analysis of the European utility vehicle market shows that inter-company co-operation plays a decisive role. This is due not only to the reasons set out above, but also to the type of clientele targeted, who pays less attention to the brand than to product "fundamentals" and the accompanying services.

Renault therefore turned to other manufacturers in a bid to find a partner to share the resources and risks associated with developing a new utility vehicle range. It approached, in turn, Volkswagen, regarding possible co-operation on panel trucks, GME, Ford, Fiat, DAF and even its own historical alter ego, PSA, regarding large and compact vans. This courtship yielded meagre results. Out of all those approached, only the Dutch manufacturer DAF showed an interest in co-operating in this area. The two chairmen signed a letter of intent for co-operating, but when DAF collapsed, the project was broken off in 1993, after detailed design work had already begun. Renault nevertheless took over the preliminary design and, with the help of IVECO on a limited number of vehicle components, launched the X-70 project to create the future replacement for the Master.

In the meantime, Renault and GME renewed their negotiations in February 1992. These concerned possible co-operation in the area of compact vans. At that time, GM's European operation had little presence on the utility vehicles segment. Despite GM's established business in light trucks in the United States, its European range consisted of only two products based on Japanese technology, which had been developed through a joint venture with Isuzu. Renault, which had made progress with its preliminary designs for the replacement of the Trafic, proposed that GME join in this work on a co-operative basis. However, in November 1992 the negotiations on what was known as the W-72 project were interrupted by the GM parent company in Detroit, arguing financial difficulties. For its part, Renault was convinced that this argument concealed both GM's lack of interest in the European utility vehicles market and its suspicion of a company that was then still state-owned. With the W-72 project now abandoned, Renault found itself back at the starting gate. Its market shares had in the meantime gradually kept on falling.

In 1994, as Renault was preparing for privatisation and was getting back on its feet after the failed merger with Volvo, discussions were renewed with GM Europe. This time the scenario was very different. GM's global headquarters proposed that Renault adapt an American utility vehicle to the European market. This project, code-named GMT-700, did not meet with unanimous approval at Renault. Marketing people were concerned about the arrival of a new competitor on the European market, but even more important, the technical experts emphasised the difficulty of adapting an American vehicle to the characteristics of the European market.

It is worth pointing out here that, although utility vehicles are used around the world for carrying both people and goods, they are not necessarily employed in the same ways nor have the same technical specifications in different geographical regions. There are, for instance, significant differences in taxation and regulations between countries, including within the European Union (size, depollution requirements, etc.). In addition, customer expectations are equally varied in terms of the engine-transmission unit, the architecture (front- or rear-wheel drive, body, chassis, etc.) and vehicle functions and comfort.

Following visits to Detroit, the Renault negotiators acquired the definite conviction that, first, the basic vehicle proposed by GM differed significantly from their own specifications and, second, the costs of "Europeanization" were greater than the costs of developing a new vehicle. To the great regret of Renault's chairman, the company terminated this project in mid-1995. Ironically, this decision met with broad agreement from the heads of GM Europe, who also rejected the choice of product proposed by their Detroit colleagues.

Under these circumstances, it was not surprising to see that contact was renewed relatively rapidly between Renault and GME, and at the highest level. Indeed, a smaller team of engineers had been working on the W-72 project proposal since 1995 and had rendered it more attractive, in particular with regard to product positioning and development costs. In January 1996, L. Schweitzer used this study to recommence negotiations with his GME counterpart, R. Donnelly. At the end of this meeting, the two chairmen firmly declared their intention of developing long-term co-operation in the utility vehicles field. A task force was set up by both parties with the goal of signing a letter of intent within three months. In the meantime, a confidentiality agreement was signed by the two parties on 19 January 1996, in order to protect shared economic and technical data. The discussions that took place thereafter concerned the content of and arrangements for future co-operation. Program profitability, manufacturing hypotheses and the like were studied, giving rise to a "joint business case".

On 26 June 1996, L. Schweitzer and R. Donnelly signed a letter of intent giving formal expression to their common desire for co-operation and prefiguring subsequent contract agreements. The deadline for drawing up and signing the contracts was set at six months. To meet this ambitious goal, the negotiating team was expanded to include the expertise of the purchasing department, industrial engineers, the sales network and the after-sales service.

In light of the difficulties encountered in negotiating the more delicate issues, such as warranty costs, after-sales service and manufacturing strategy, the chairmen named a Program General Manager, the only manager who is accountable to both companies. With the impetus provided by this new manager and with a continuing desire for even-handed co-operation, the contracts giving official status to the partnership between Renault and GME were finally signed in December 1996 — more than eight years after Renault had begun its search for a partner.

Renault's various attempts at co-operation on utility vehicles since the late 1980s are summarised in Figure 2.

FIGURE 2 ABOUT HERE

The ex-post analysis of the setting phase of the Renault-GME partnership highlight three important remarks:

- First, measure time to market. Assess how quickly a firm can move from concept to market is one of the most crucial issues in new product development. Interestingly, this time frame does not take into account the process prior to the project "go-ahead". Considering the total time frame, our findings suggest that the setting phase can be twice longer than the lead-time, postponing considerably new product introduction into the market.
- Second, the uncertainty and instability of the negotiation process. The impact of external events had a negative effect on the negotiation process. Indeed, three different attempts were necessary before securing the strategic compatibility of the co-operative firms.
- Third, the involvement of top executives. Since the very beginning, contacts between both firms were initiated or renewed by top executives. By setting the main orientations during negotiations, acting as a steering body to resolve any issue, their involvement proved to be decisive.

- *The outcomes of the setting phase: Different motives, a shared objective*

The co-operation architecture was based on three different programs:

- First, a supply agreement stipulated the sale to GME of Renault's Master vehicle, which was then to be marketed on GME's own network under the Opel and Vauxhall brands.

- Second, Renault and GME were to reach a joint development agreement for a new utility vehicle positioned on the compact van segment, the X-83 project. The two partners, who maintained co-ownership rights over the product, financed the program in equal shares. Furthermore, Renault took responsibility for supplying the engines and providing a vehicle development site. For its part, GME undertook to supply the gearbox and the vehicle production site at its IBC Vehicles Ltd plant in the UK. The plant would sell the vehicles to the two manufacturers for a transfer price, and they would be responsible for distributing them through their own networks under their respective marketing policies.
- In the meantime, GME's position on the compact van segment was to be based on a supply contract for the sale of the existing Renault Trafic.

These three programs were backed up by a framework contract that aimed to clarify the content and arrangements of the X-83 program, that is, to define an organisational framework to manage its development, to set up the bodies responsible for co-operation and to determine the relationships among the three programs.

The X-83 project was clearly the cornerstone of the co-operation between the companies. Not only did it have the goal of rationalising the design and production of a complete vehicle by sharing the resources and risks associated with development and reaching economies of scale on parts and components, but it also represented a strategic opportunity on a growing market. Indeed, although the market for passenger cars had been stable or even shrunk slightly, the van market had grown rapidly at the European level by +46% between 1984 and 1998 [18].

In addition to the anticipated benefits, for Renault, this co-operation was a sine-qua-non for renovating its product line by making use of the GME manufacturing system, by gaining access to a larger pool of suppliers and by acquiring experience in joint development. For GME, such a co-operation represented an opportunity to position itself on the European market for heavy and compact vans by drawing on the experience of its partner Renault, as well as a means of lowering the break-even point of its plant in Great Britain.

It should be added that the companies were to co-operate throughout the product's lifetime (more than a decade), while facing each other in head-on competition once the vehicle came off the assembly line.

3.2 Renault's project management tested by the demands of international co-operation

For the X-83 program, signing the co-operation agreement marked the transition to a new phase in the partnership's life cycle: the execution of the co-operative project. The initial phase was crucial, for it was during this period that the first exchanges were initiated, and that each party gained familiarity with the organisations and operating methods of the other through negotiating work. In addition, the initial wariness between the two bargaining teams gradually gave way to interpersonal trust, which, though fragile, was strengthened by the need to find common ground concerning the activities to be pooled and by many occasions for contact both on and off the job. However, co-operation does not come into existence with the signing of an agreement; rather, it must be built by the operational actors [19].

The fact is that while the success of international co-operation requires meeting one's objectives in terms of costs, deadlines, and the quality and features of the product to be developed jointly, it depends above all on the parties' ability:

- to interpret and apply the commitments that have been negotiated upstream and formalised in the contracts;
- to develop a process of interaction to achieve a common goal;
- to adapt project operating modes to an unprecedented working situation characterised by the paradox of co-operating with a competitor.

This involves understanding the impact on the daily management of a co-operative project that results from working with a foreign partner, which is also a competitor on other markets, as well as how these will impact the functions involved and even other inter-company relationships (i.e. suppliers and partnerships in other fields). While the broad principles of the development approach based on concurrent engineering [1] were to be used on the X-83 project, the point was also to detect the changes that would be engendered by co-operation, in particular on the project approach, which, first in the automotive industry and then in other manufacturing industries, gradually established itself as the main organisational approach to product development.

Our in-depth analysis of the inter-organisational co-operative process allowed us to identify three clusters of difficulty:

- Mutual understanding

Automotive development is a complex exercise in social relations and technical skills [20]. Although the end product is the same for both OEM partners, the development process can prove to be very different from one manufacturer to another. Thus in the context of a joint development each partner will naturally have a tendency to adhere to its own product development processes, which are highly formalised and are systematically employed from one project to another.

The X-83 project was at a very early stage compared to a "normal" Renault project, and the joint development contract gave only a brief description of the product, leaving the Joint Management Team (JMT) the choice of how to proceed. Before any co-operative effort is undertaken, knowledge about the partner can prove inadequate on both sides. Even though technical monitoring and economic intelligence have expanded considerably in recent years, the object of comparison more frequently concerns the result rather than the procedures used to attain it [19]. A genuine process of exchange thus needs to be developed, from the negotiating stage and throughout the life cycle of co-operation, so as to "build" the objective and the paths to achieve it. In addition, project planning methods, the content of different milestones, the quality assurance procedures, prototype developments and many other major themes of design practices will need to be exchanged both in everyday work situations and on specific occasions (e.g., JMT seminars). The key point is to have "lean exchanges" , that is, to make an effort to explain the respective practices, while remaining vigilant about the partner's attitude and the confidentiality of data.

A case of mutual misunderstanding of methods of economic analysis

During the initial phase, when the letter of intent formalising the goal of co-operation had not even been signed, a decision concerning the choice of the project manufacturing site was expected. Each party had a plant in contention, and a decision was supposed to be based on an economic assessment of the two proposals. Exchanges concerning the respective economic tools proved to be inadequate, as the evaluations revealed a "basic misunderstanding". To determine its plant's selling price, Renault had performed its calculations using full costs, whereas the GM figures were based on marginal costs. It was only several months later that the partners noticed this error in comparison, which distorted the results. To prepare for the final decision, the financial heads of the two parties therefore developed a common economic glossary, a genuine joint business case, which provided a clear view of the different methods for assessing profitability and making economic calculations.

Using English in the Renault engineering office

The co-operation agreement signed in 1996, which was drawn up in English, stipulated the use of English as the official project language (specifications, progress reports, procedures, etc.). However, from the very first phases of co-design, this goal came up against the difficulties posed by the actual situation of the project participants. Starting in 1997, the GME members of the joint project team — a group of Opel engineers, process engineers from the IBC plant and purchasers from the joint purchasing unit — gradually moved to the Renault development site. Linguistic problems quickly added to the difficulties already intrinsic to working out a division of labour and defining appropriate operating procedures for the project. During engineering meetings or reviews of program progress, arguments about technical solutions ran into difficulties in using English, which was often a foreign language for both parties. Each word can mean something different for the two parties, since each associates it with his own ideas. Although bringing the participants together in the same place and their common automotive culture helped the dialogue along, misunderstandings and incomprehension persisted. It was not unusual to see groups form in the hallways following a meeting in English, during which the French-speaking participants tried to understand what had been said only a few moments earlier. The extensive use of computer-assisted mock-ups did not make things easier, as it eliminated the numerous physical prototypes that had helped facilitate communication and mutual understanding.

It is inevitable that communications with a partner in everyday work situations will be oral. However, language is not simply a tool for communication, it is also (and above all) a way to convey meanings and representations. If not fully understood, it will not facilitate access to the partner's representations and may prove to be a source of incomprehension, misunderstanding, empty words and tension.

- Equity between partners

To deal with these imbalances, participants in a co-operative project use procedures to evaluate and continuously control developments in the co-operation process in terms of efficiency and equity. Recently, research conducted by Piron introduced the concept of inter-organisational justice [4]. For Piron, this notion comprises three ways in which justice or equity finds practical expression: distributive, procedural and interactive.

Distributive justice involves the search for a balanced proportionality between the partners, a "fair return", in Piron's words. The point is, for the firms, to find a fair distribution of goods and powers based on the goals sought and the resources committed by each.

The design of the dashboard and control buttons

In early 1997, the choice of the dashboard had to be finalised in order to freeze the interior design. The Renault Project Design Chief, together with his Opel counterpart, had developed an original architecture through a series of validation stages using CAD/CAM mock-ups. The design was based on a perfectly symmetrical arrangement in relation to the vehicle's longitudinal axis and included a number of storage spaces suitable for the vehicle's commercial use.

Two dashboard proposals had been selected. The first included a digital display. The second was more conventional and used an analogue display. Renault, which had already had very positive experience with the Espace and Twingo models, clearly leaned towards the first option, but GME had never tested this option in its products and suggested to carry out clinics tests in the dominant markets. By using an exterior design associated with the two dashboards, the tests were conclusive: for the French customers, there was a clear preference for the digital solution, whereas the English and German customers showed a clear preference for the analogue instruments and an aversion to the digital solution.

Another development contributed even further to the existing divergences. During the second half of 1997, at a time when cost constraints were limiting brand differentiation to a strict minimum, the Renault Product Project Manager noticed significant differences between Renault and GME in terms of the control instruments. GME used buttons on the dashboard whereas Renault preferred to put them on the steering wheel. However, this choice had a strong impact on the final dashboard design and led to a flood of problems (steering column, keys, etc.). Assessing the options quantitatively revealed a clear advantage for the "Renault solution".

The joint project team thus went through a complex process involving both qualitative assessments and quantitative results, and even more important, brought to the fore the brand image each manufacturer defended. In the end, the Project Manager agreed on the "GME" solution for the dashboard and the "Renault" solution for the control buttons. The mixed project team considered the choices to be equitable.

Procedural justice refers to the feeling that procedures have been fair. The point is for the participants to judge a decision-making process relative to a reference that is well known and considered legitimate. The factors that influence this include a feeling of participation in decision-making, an explanation of decisions, and clarity concerning expectations and the rules of the game, all of which influence whether the participants feel they have been treated fairly and equitably.

Formation of the project management team

Having a reduced team composed by skilled project managers representing major's functions is a "basic" of project management handbooks. Based on this seemingly impeccable logic, the negotiators of the Renault-GM agreement imagined a scaled-down project team based on sharing responsibility between the two firms. In practice, however, it turned out that some project managers experienced difficulty in defending the options preferred by their partners. Thus, faced with the need to maintain even-handed treatment, most functions were carried out by two managers with the same level of responsibility, who fairly represented the interest of each firm (products, purchasing, engineering, planning, etc.).

Finally, *interactive justice* refers to individual interactions based on fairness in behaviour, which makes it possible for a decision to be considered "do-able". Hence respect and courtesy between allies prove to make an important contribution to fostering a positive atmosphere for interpersonal relations during the co-operation process.

Lack of reciprocity in exchanges of technical specifications

The Renault engineering department's poor understanding of the initial terms of the agreement with GME led to a deep misunderstanding. Indeed, since more than 95% of the engineering work was made in the Renault facilities, their managers confused a joint development relationship with a technical subcontracting relationship. The Opel design engineers who had been sent to the Renault site openly displayed some frustration at not being involved in the daily development work and expressed difficulty in understanding how the technical solutions were reached. In part, these problems were related to the many difficulties the Opel engineers encountered in mobilising their experts to exchange specifications and information on the respective carry-over solutions. Renault staff, for their part, tended to interpret the slowness and difficulty experienced in obtaining this crucial information as a sign of their partner's reluctance to provide information and of its desire to obtain Renault's know-how without giving anything in return. The Program General Manager had order both engineering centres to exchange their technical specifications arguing "what it's beneficial for the X-83 program is beneficial for both companies"

- Instability and inter-company discord

Various researchers have shown that industrial co-operation is by its very nature unstable and vulnerable to exogenous events [21, 22, 23]. In the case of the X-83 program, we have seen on several occasions that joint decisions have been upset by shocks coming from outside the project. The nomination of a Program General Manager representing the interests of both firms and the governance structures strengthened the joint program and attenuated the impact of external events such as the Renault-Nissan and GME-Fiat Alliances or the high currency rate between the Euro and the Sterling Pound.

Selection of suppliers by the joint purchasing organisation

In order to secure economies of scale and gain access to a greater range of suppliers, Renault and GME set up an innovative purchasing organisation for the X-83 project. The organisation reports to the X-83 Program Manager and is independent of the two companies' purchasing departments. Among the many obstacles it has had to face are purchasing procedures and data confidentiality. From the outset, two project purchasing managers with the same level of responsibility headed this organisation. They made a great effort to ensure that they systematically discussed differences over policy, organisation and their respective purchasing procedures. In this way, they were able to develop and formalise specific common rules for the X-83 program using the "best practices" of each firm.

At the critical moment of selecting project suppliers, the GM Global Purchasing Department rejected on several occasions the choices made by the project purchasing organisation on the grounds that they went against previous decisions to blacklist certain suppliers. The crisis was resolved through the intervention of the project purchasing managers with the support of the Program Manager.

3.3 An experience in collective learning on international co-operative projects

This section reviews an experience (among other possible ways) in the collective learning of the management of international co-operative project. A joint research team between Renault and the CRG initiated an investigation with several goals. First, it sought to make real-time improvements in the X-83 project operating procedures, and second, it aimed at developing "meta-rules" (as defined by Jolivet & Navarre [24]) to be used in future co-operation efforts. More subjectively, the study also aimed to enhance Renault's capability in managing an international co-operation.

- Experimenting with the role of the Co-operation Process Manager

The difficulties faced during the early phase of the Renault-GME partnership had led X-83 Program Manager and the Renault Engineering Manager to request some support from the Socio-Economics Group of Renault in order to assess the co-operative process and propose actions to improve the going way. The research effort began in March 1997, i.e. three months after the main contract agreements between Renault and GME were signed. A second phase in the development of the X-83 project began in March 1998 with the creation of the experimental post of the Co-operation Process Manager. Given a situation of permanent confrontation, the dualistic competition / co-operation nature of the process as well as the endogenous and exogenous instability of the GM-Renault co-operative process, the researchers recommended that a permanent position be established. The basic idea was to test whether it was possible to intervene in a co-operative project, adopting an "in and out" and "in between" function so as to make it more stable and equitable and improve mutual understanding.

Although it was the first time Renault had attempted this, the idea is not unprecedented. P. Piron had already tried out the role of Risk Manager during the Scalp EG/Storm Shadow project involving Matra and BAe Dynamics. Moreover, this function had been proposed by Doz & Hamel [25], who stated:

> "Learning about the collaboration process goes beyond the tasks to be performed, what makes each partner tick and how members of the partner organisations approach the process of co-operation. This could be done by stepping outside the process for a better view, letting objective parties observe the process (neutral third parties may also fill the role of process architects more easily than anyone in the partner organisations), so as to stimulate collaboration and work on misunderstandings."

- Modes of action and competencies

An introspective analysis of our role of « co-operation process manager » highlighted three issues. First, the function is supporting a collective behaviour and, second, this function evolves according to dynamics of the joint project. Finally, this role differs from the role of facilitator, usually involved in cross-company projects teams.
According to Boudès [26], different competency areas can be distinguished studying the profile of a project manager: management techniques, a social competency and specific professional knowledge. Such a framework

appears useful to characterise the modes of intervention of the co-operation process manager as he tries to solve the three clusters of difficulties of international co-operative project that we identified in the precedent section.

- Mutual understanding was enhanced, mainly, by holding seminars for the Joint Management Team, or ad-hoc workshops for key issues during product development. Moreover, several project meeting were facilitated in order to bridge the gaps in terms of language and clarify the purposes, process and expected outcomes. For such activities, our social competency in animating transversal teams, specific skills in meeting facilitation and seminar organisation have proven to be important advantages. Finally, the professional knowledge of automotive engineering enabled us to engage in-depth discussion on specific domains and identify areas of discrepancies between respective operating procedures.
- Equity between partners was managed thanks to our longitudinal involvement. The use multiple research techniques (questionnaires, interviews, participate observation, etc.) enabled us to have a comprehensive understanding of the partnerships and the critical areas. Several management techniques were used to assess task breakdown, propose co-operations indicators or perform a risk analysis for the subsequent stages of the program.
- Instability and inter-company discord was regulated by putting in place some specific management devices. For instance, after the selection of the Nissan operation situated in Barcelona (Spain) as a response to increased commercial volumes, we set-up a cross-site committee. This made possible to extract a shared vision of the program manufacturing strategy. Furthermore, we issued a program organisation handbook in order to clarify common process with regards to decision-making, project and governance structures, meeting scheduling and description. This, in turn, enabled parent firms to be aware of the specificity's of the joint project and sensitised new resources to a unfamiliar working environment.

- Organising and leading a co-operative inter-project network aiming to develop a new expertise

This section illustrates how the learning acquired in several international co-operative process allowed the researchers to design and implement several managerial devices aiming to develop the competency to manage international co-operative projects.

We can distinguish four different situations for developing a new set of skills according to the political and cognitive status of the subject [26]. Typically, the management of international co-operative projects is recognised as a strategic asset. However, the novelty of this situation does not enable to quickly provide a set of appropriate skills. This particular situation requires an innovative approach toward building a new competency.

Among others actions, the researchers successfully organised a network between the co-operation process managers involved in inter-organisational relationships across the globe. Also, in order to sensitive middle and top managers, a case study based on the experience acquired in the X-83 project was built. In total, more than 300 managers were instructed in the problems that might arise in a joint development. Moreover, the researchers set-up a "club" formed by project managers, directors from operational departments or support functions. The aim of this club was to share experiences in inter-firm collaboration using narrative techniques. Finally, in order to share the reports and capitalise the experience in this field, an intranet site is under development.

4 Conclusion

Over the past decade, the automotive industry has been the arena of concentration and globalization of firms. Although this trend would apparently seem rather homogeneous at the strategic level, this paper, based on organisational learning theory, reveals, instead, a significant variety of globalization process patterns. Apart from the classical "home based model", we characterised three different globalization trajectories based on: functions, projects and platforms. Each path creates specific learning track which its own specific advantages and problems.

Thanks to an in-depth and longitudinal study, we have been able to characterise a specific globalization path based on international co-operative projects. Out of this analysis, three clusters of difficulties emerged: building mutual understanding, managing the equity between partners and regulating the instability and dissonance. We illustrate on the studied case how such difficulties call for specific choices in co-operative project organizational design and management practices.

In the last part of the paper, we addressed the question of developing the collective competency of a firm to face a systematic globalization track based on various co-operative projects. Our results underline the importance of a new role, the co-operation process manager, in order to diagnose in real time and regulate the complexity of inter-organisational co-operative relationships. After experimenting and characterising this role on the X83 project, the research tested the generalisation of the approach within Renault. Such organizational deployment associates institutional variable (enforcement of new "metarules" for managing co-operative projects) and cognitive variable (organization of co-operation managers network, training programs and development of system for co-operation knowledge management).

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Figures and Tables

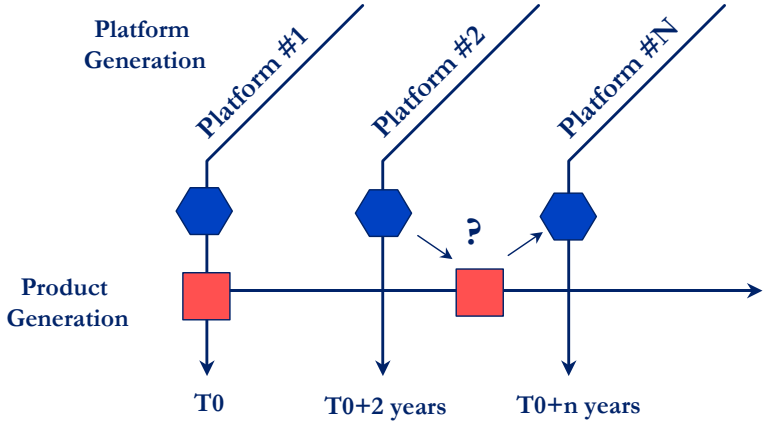

Figure 1: Synchronizing platform and development product generations

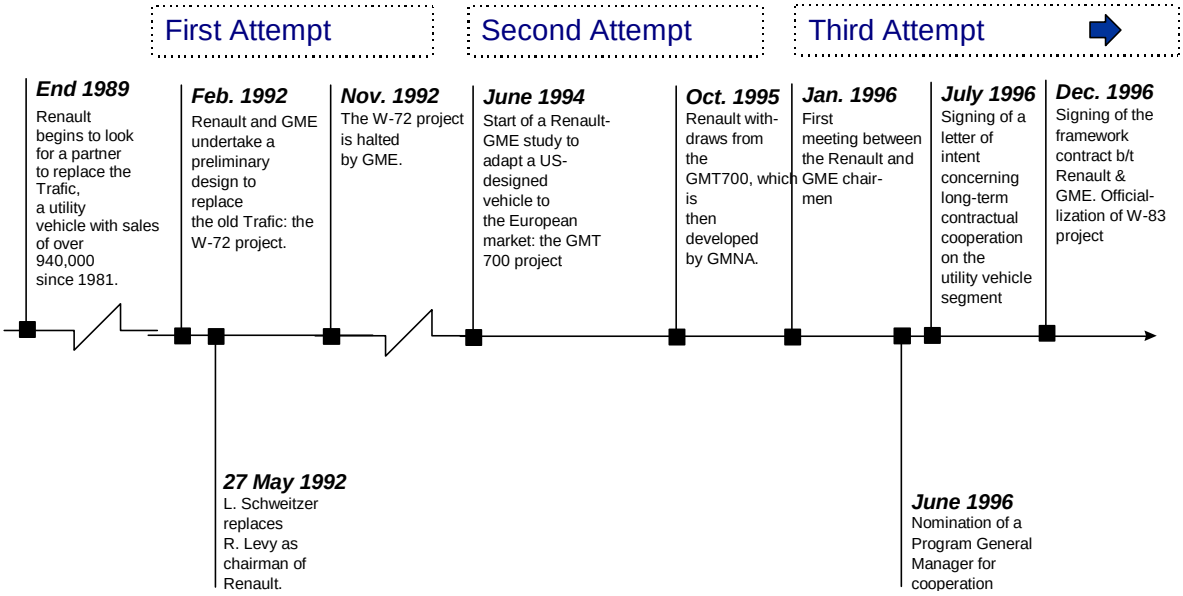

Figure 2: History of Renault-GME co-operation