A decisional modelling for network franchise management: application on french networks

Pierre Fenies, Samuel Lagrange, Frédéric Gautier

A DECISIONAL MODELLING FOR NETWORK FRANCHISE MANAGEMENT: APPLICATION ON FRENCH NETWORKS.

Pierre Fenies[1,] , Samuel Lagrange[2,] , Frédéric Gautier[1,]
[1]CEROS EA 4429, Université Paris Ouest Nanterre La Défense
[2] Centre de Recherche en Gestion et Management, CRCGM, Université d'Auvergne,
pfenies@u-paris10.fr ; Samuel.lagrange@udamail.fr ; fgautier@u-paris10.fr

ABSTRACT

This paper proposes a modelling process to evaluate/optimize logistic and financial flows in a franchise network. Our modelling is a combination of two modelling processes: a first modelling reproduces the running logistic network through simulation and/or optimization (Comelli et al., 2008a); then data given by this model are used by a model which reproduces the consequences on the mixed franchise network thanks to a Mixed Integer Linear Programming (MILP) optimization based on the four Bradach management challenges.
We will apply the proposed modelling process on 3 networks types:

- A bakery networks composed of a supply chain producer and a retail outlet that sells the products made by the operator of the network in his own factories (Paul, La Mie Caline, Saint Preux, La Croissanterie, Brioche Doréee, St Preux…)
- A traditional Restaurant Franchise network composed of a supply chain producer and retail outlets that transform products made by the operator of the network in his own factories (Flunch, Courte Paille, La Boucherie, Buffalo Grill, Dell Arte, la Pataterie, Hippopotamus…)
- A fast food restaurant franchise network composed of a supply chain producer and retail outlets that transform products made by the operator in his own factories (Mac Donalds, KFC, Quick, Domino Pizza, Class'Croute…)

Keywords: SCM, financial flows evaluation, franchise network, optimization, mix rate.

INTRODUCTION

The reticular commerce has a dominating position within commercial activities, as it has been underlined by Cliquet and Pénard (2002). From that point of view, it is important to note that one of the most studied commercial forms within research work is the commercial system of franchising. So far, works undertaken up have been based upon two approaches, which are traditionally opposed: first, analysis based on the resource constraints and second, analysis based on the agency theory. Whether one or the other is considered, choosing franchising, rather than branching, is justified in a contingency manner compared to criteria, such as distance from the operator, ability to settle within a local competitor territory, belonging to consumer attraction (Cliquet, 1997), the "know-how" mobilisation for uniformity, and so on. Unfortunately, numerous empiric works based on such explanations lead to contradictions (Lafontaine F. and Bhattacharyya S, 1995; Combs, Ketchen 2003). We therefore believe that the analysis of franchising and statutory choices (franchising versus branching versus mix) must not be undertaken in a contingency manner, but in a global manner, using a systemic view, which will allow retroacting phenomena. What Bradach's research (1997, 1998) has essentially brought is: we should go beyond the problematic of contingency and to expose, not the advantages of the alternative statutory forms, but rather the advantages of mix itself. The author has studied American fast-food networks, allowing the confirmation of the appearance of synergies linked to statutory plurality, and stressing four main challenges that the networks have to meet. Relying to this, in the case of franchised mixed networks, it is necessary not to carry out a sequential analysis, but rather a holistic one, so as to take into account the basically systemic aspect of this type of organization both in its physical and managing shape. This way, we are offering a process dedicated to the approach of the four Bradach's challenges, allowing a better apprehension of the mixed reticular forms. Lagrange and Féniès (2005) produce an analogy between franchise networks and supply-chains
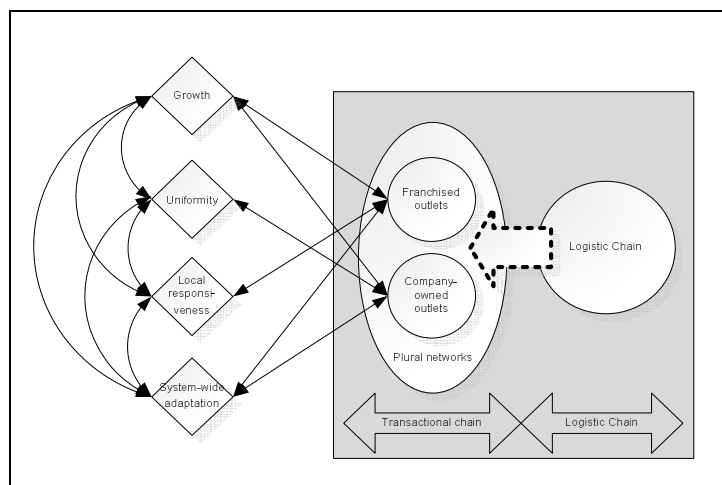
and realize that the aims of an operator of a supply chain and of an operator of a mixed network are the same as it is all about optimizing a collective performance in a global manner, while bearing in mind local sense of identity. The proposed approach in this paper, based on those latest observations, uses supply-chain modeling process to evaluate/optimize financial flows in a franchise network. This will lead to three evaluated scenarios: a company-owned network, a franchised network and a mix network will be compared. In section I, we will present the theoretical material necessary to understand the problematic of mixed networks and the supply chain modeling process. Next, in section II,, we will present the general modeling process and the way it can be instantiated to franchise networks in an evaluation or/and optimization view. Then, in section III comes the application to French networks and the results of the modeling process both in terms of evaluation and optimization. Finally, we conclude on that work.

I. STATE OF THE ART: FROM PURE NETWORKS TO MIXED NETWORKS AND FINANCIAL SUPPLY CHAIN MODELING

Taking into account the managerial interest of mixed networks

Contingency studies propose some explanations of the success of the franchise form: the agency theory argues that franchise is a good means to control when the operator's interest is a problem of relation such as principal and agent (Jensen, Meckling, 1994), and the scarcity resource theory (Oxenfled, Kelly, 1969) is looking at the problem of financial or managerial resources that an operator could face when he wants to develop a company-owned network. Such choice modalities tend to prove that mixed networks are neither considered as a strategic idea nor as a real managerial choice for its specific properties. However, Lafontaine and Shaw (2001) show that, in spite of some variations depending on sectors, there may be a stable rate of mix. According to Bradach's results (1998) it also appears that mixed networks are able to raise four management challenges that lead to the success of the network: this deals with the growth of units, the respect of uniformity, of local reactivity, as well as the systemwide adaptation of the network to the competing pressure. As far as Bradach's challenges are concerned, if we consider the growth management, this kind of stake is particularly important when Emerson (1982) shows that the growth of the network originates almost exclusively from the addition of units, which allows an income progression. In addition, if we follow Ghosh and Craig's intuition (1991), a thinly spread network gives other organizations the opportunity to occupy a competing space. As far as growth is concerned, it appears that mixed networks have a definite advantage because they allow the operator to call upon several expansion mechanisms simultaneously (Bradach, 1998): the development itself of retail outlets and the attraction of new franchised. In the second case (development through franchising), the attraction of potential franchised will be essentially based on the perspective of income. However, there are only a few ways of bringing this kind of information to future franchised ; amongst the different types of income, there are entrance fee levels (Galani and Lutz, 1992) and the public image already developed by the network (Bradach, 1998). We will see here some particulars of management of development, which is the strong link with the public image: the development initiates a public image, which itself allows to strengthen the ability of the network to grow. The second stake spelt out by Bradach is related to uniformity: it is about managing to keep a uniform aspect to the commercial process in all the network outlets, either themselves administered by the operator or franchised. Manolis, Dahlstrom and Nygaar, (1995), from a uniformity point of view, show that, during the development of the network, it would lean towards a company-owned structure for standard violation standards. Also, Michael S.C. (2002) shows that the statutory form of the franchise is less able to correctly manage the elements of mixed marketing than a company-owned chain. This type of reasoning seems to be confirmed as far as Lafontaine and Shaw (2001) are concerned; they pretend that, because of the ability for franchisees to be opportunistic, the operator would be better off by owning a great number of company-owned outlets in order to protect the value of its public image. The weight of this challenge is all the more so great that it is important to consider the necessary dispersion of the network outlets so as to give a global nature to the network, which is well-suited to the public image but has possible variations within the competition as corollary.

Therefore, it is necessary to modulate between uniformity and local reactivity (which is the third challenge we are facing). Effectively, the essence of the network is to be able to offer the same format on the whole territory, which brings us to consider local territories with different characteristics. This local reactivity stake of the retail outlets seems unavoidable in regard to the definition of the commercial format we are dealing with. Beyond that, it appears that this component of reactivity in the management of retail outlets is strongly related to another stake described by Bradach (1998): the stake dealing with the local adaptation of the network to the competing pressure. Effectively, this latest stake can be broken down into sub-elements which represent the generation of new ideas, their selection and the set up of innovations. According to Bradach (1998), the generation of ideas is based in the local reactivity of franchised outlets. Moreover, on the fourth level of global adaptation, the local reactivity will also enable the quick and uniform set up of innovation to gather the activity in a territorial manner, as this set up of innovations decided by the operator will allow dealing better with local specificities. As we have just seen, the interdependency of the local reactivity stake and the global adaptability of the network is real. Besides, this fourth stake affects the realization of the uniformity stake. The systematic opposition in the innovation and uniformity in literature makes this link a central element. Beyond this, there is another interaction that we are able to find between the global adaptation and the network growth. Effectively, one of the foundations of the management of global adaptation is to achieve it within the network, in a uniform manner, which means that an oversized network might be an obstacle to the set up of innovations. This way, the more the manager will focus on the network growth, the harder the fourth stake will be to achieve (Bradach, 1998). We can also notice that, following Bradach (1998), carrying out a global adaptation of the network following innovation, must have some influence on the capacity of retail outlets and the network itself to make some definite profit, as these changes will therefore affect the operator's concept by modifying some elements. However, the network's growth by unit addition depends on the ability to generate some important profit for retail outlets. Notably, a good concept appropriateness, through eventual innovations, to the consumers' preferences is a source of income for the operator, but also for the franchised retail outlets, which will be all the more an incitation to belong to this network for applying franchisee. There is a real reciprocal relation between the development and the global adaptation of the network, and it will be necessary to take into account the growth when we want to achieve global adaptation and to take into account this adaptation, for the purpose of growth management. It will be difficult to deny that this managing stakes, more than simple isolated challenges are in the end closely linked to each other. These latest results would tend to show that mix is not a transitory form but a real equilibrium allowing the better management of the organization. Moreover, taking into account Bradach's challenges and a whole structure of a supply chain (transaction and logistic chains) it is possible to represent the relation between each other (transaction and logistic chains) it is possible to represent the relation between each other (figure 1).

Figure 1. Management model of franchise mixed networks with supply chain sourcing

Financial Supply Chain modeling and collaborative planning

Collaborative relationships between firms deal with physical, informational and financial flow in Supply Chain. Many definitions of supply chain can be given (Beamon, 1998). In a logistic way, the value for consumers depends on the demand satisfaction: one of the main goal of Supply Chain is therefore to increase the customer satisfaction. In the case of the Supply Chain of a franchise network, the operator has to be sure that the value is shared between the franchisor and the franchisee. Financial value for shareholders (supply chains are made of firms, these firms have shareholders) depends on shares value. A part of shares value depends on the market level and firms financial policy. Another part of shares value depends on the cash flow level. Cash flow from operations is important because it indicates the ability to pay dividends. To our mind, a Supply Chain exists if partners earn money thanks to collaboration, and if cash flows levels are increased for all the supply chain partners. A supply chain may be defined as a coalition of autonomous actors coordinated thanks to an integrated logistic process. Thanks to collaborative planning, Supply chain actors share created value (cash flow). It is relevant to link physical flow and financial flows in planning because financial flow depends on physical flow operations in this decisional level. Many works such as Dudek and Stadtler (2005) or Holweg *et al.*,(2005) deal with collaboration in supply chain, but in these approaches, financial aspects are neglected. Indeed, value sharing often remains theoretical and deals with costs but not cash. In a recent paper, thanks to a given production planning, Badell *et al.* (2005) optimize financial flow and cash position at the end of each period. Bertel *et al.*, (2008) show the links between financial flow and physical flow in an operational way, but the domain of research deals with a workshop. The main objective of cash managers is to have enough cash to cover day-to-day operating expenses but also to have the lowest excess cash because it is not a productive asset. Cash management problem were simply formulated by Baumol (1952) as an inventory problem assuming uncertainty (Miller and Orr, 1966). Two types of metrics are generally used to optimize financial flow: <u>cash position</u> which reveals the cash which is available at the end of a period and <u>cash flow</u> which reveals cash generation during a period. In a recent paper, (Badell et al., 2005) optimizes financial flow and cash position at the end of each period. To conclude this paragraph, we may note that Shah (2005) holds that combined financial and production-distribution models should be considered in the area of SCM in strategic level but that very few works propose this type of approach for the moment

Comelli and *al.,* (2008a) propose to evaluate the impact of physical flow planning on financial flow, thanks to ABC and cash flow level. The authors propose a mathematical formalization of cash flow evaluation for a Supply Chain tactical planning: the use of this approach will be extended in order to integrate together financial objectives with distribution network constraints for a franchise network on a strategic level. This approach, combining supply-chain financial aspect and collaborative management problems for franchised networks, is presented in the next section.

II. AN APPROACH FOR THE OPERATOR SUPPLY CHAIN OF A FRANCHISE NETWORK EVALUATION AND OPTIMIZATION

PREVA Instance for franchisor supply chain management proposes an approach which evaluates and/or optimizes planning for a franchise network and its supply chain. A model (A) reproduces by simulation and/or optimization the supply chain running (Comelli et al., 2008a); then data given by this model are used by a model (B) which reproduces consequences of model (A) on a mixed franchised network where the operator chooses the form of the stores between company-owned outlet and franchised outlet. This second model (B) is constructed within respect of our systemic vision of the franchise and takes into account the management challenges of a mixed network. . Therefore, it is possible to use this model (B) as an analytical model, in order to evaluate scenarios for cash flows operators. It is also relevant to use this model as an optimization model. Two decisional variables are proposed: (*i*) For each period, model (B) shows if each new outlet has to be opened as a franchised one or as a company-owned store; (*ii*) For each period, model (B) optimizes cash flow of a franchise operator. Figure 1 presents the proposed approach, and the model coupling. The model B goal is reproduce the four challenges observed by Bradach's challenges, and to translate them in Cash flows in order to evaluate/maximize the franchisor cash flows. In order to model those relations, we have to determine variables that can be used to stand for each management challenge. Then, we will briefly describe the behavior of the model. As far as the first challenge, i.e. the growth of the franchise

network, is concerned, some variables have to be considered in a natural way. It is the case of the size of the network which is an indicator of the effective management of the growth: if the franchisor takes into accounts this growth it obviously conducts to a higher number of outlets. In respect with Castrogiovanni et Justis (2002), it appears that the size of the network is a critical value that indicates the difficulty or the facility a franchisor has to manage his own development. In the understanding of the number of outlets, the size of the network (SIZE) will be our first variable to approach the growth of the network.
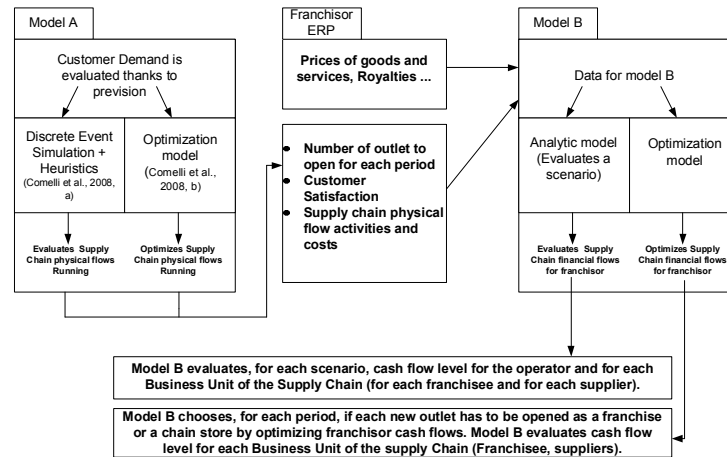

Fig. 2. PREVA Instance for franchisor Supply Chain Management.

We can also consider that the growth is managed as far as new outlets are opened as company-owned or franchised outlets. Naturally, we also consider that the growth rate (GRATE) is the second variable we should take into account. From the point of view of the uniformity, we may consider different variables that can approach this challenge. After Kaufmann and Dant (2001) who have shown that the fees structure depends on the brand image we will take this element (FEE) as an indicator of this second challenge. It is also argued by Galini and Lutz (1992), who have developed a signal theory which tends to show that fees are signaling a good ability to generate profits in the considered network. Also, the authors demonstrate that higher fees are protecting brand in such a manner that it discourages potential free ridding from new franchisees. Analyses such as Michael's (2002) also tend to show that franchisees are less able to manage the elements of the mix marketing such as the trend mark management and the concept enforcement. The network evolution towards company-owned outlets is consequently an indicator of the operator willingness to have a strong brand mark. This is demonstrated by Lafontaine and Shaw (2001) and Scott (1995) who show that the greater the brand mark is, the more it will be interesting for the operator to have a high rate of company-owned outlets. From that point of view the rate of company-owned outlets (CORATE) will be a second variable for the management of the uniformity. An advantage of franchise networks can be seen for the operator since he will enjoy economies of scale in marketing actions. Thus, the same marketing message is valid for all the outlets in the network because all of them are developing the same products. Mathewson and Winter (1985) demonstrate that customers are more receptive to quality if it comes with a global dimension. Foss (1999) believe that a strong brand decrease the risks of free riding. For all those reasons communication and promotion are obviously important keys for a franchisor who wants to protect his brand, as Lafontaine and Shaw (2001) notice it. Thus, fees received from franchisees for national advertising (ADFEE) will be our third indicator for uniformity. It is obvious that without the ability to implement the franchisor's concept the franchisee won't be able to control the concept and its procedures. Lafontaine and Shaw (2001) show that the duration of formation is linked to the value of the brand. This is also a way to preserve the intangible assets of the brand as notice it Windsperger (2002). As an effect, we will take (CFORM) the cost of this formation (thanks to the number of annual training days) to represent a measure of the uniformity management. Since Windsperger (2001)'s works about property rights and especially their remuneration in franchised network, it appears that intangible components of property are so high that it is necessary to approximate its measurement. Furthermore, Windsperger (2002) explains that the higher the royalties

are, the higher the franchisor's know-how is, and conversely, the bigger the local know-how of the franchisees is, the lower the royalties are. Consequently, it seems obvious to use set royalties (ROY) as our first measure of local responsiveness. As we described it previously, it seems that there are some contradictions between local responsiveness and uniformity. As we decide to use the number of owned outlets to approach uniformity, it is logical to use the number of franchisees to measure the responsiveness propensity of the network (from that point of view Cliquet and Al. (1998) notice that reaction capabilities are more effective in a franchise system than in a company-owned structure). Furthermore, Castrogiovanni G.J., Combs J.G. and Justis R.T. (2006), based on a 439-network study argue that the rate of franchisee tends to grow when those networks spread abroad. However thanks to Hayek (1945) followed by Jensen and Meckling (1995) it is known that centralized skills and decentralized skills cannot be possessed by a unique agent. Furthermore a company-owned network is managed in a centralized way whereas franchise is concerned by decentralization. The rate of franchisee (FRARATE) in the network marks the operator's will to favor local responsiveness. "The best marketing a restaurant manager can do is to operate the restaurant effectively. The marketing department's job is to bring in customer; it is the restaurant manager's job to deliver on the promise. We don't want to burden the restaurant manager with outside projects" are the words of one coordinator asked by Bradach (1998). Thus local advertising and local marketing operation seem not to be the salaried managers' matter in company-owned outlets, whereas franchisees can do it considering local competing conditions. In that sense we use "local advertising fees" (LOADV) to describe our third measure of local responsiveness.

The last challenge evoked by Bradach (1998) is the systemwide adaptation which is a sequence of several operations whose first is the generating ideas, the second is their testing and their evaluation, the third is about the decision making and the fourth concerns the implementation of the innovation. As far as the generation of new ideas is concerned, Lewin-Solomons (1999) notices that the franchisee's autonomy encourages him to innovate and he notices the ability of franchisees to innovate. Bradach (1998) also rely to this when he argues that systemwide adaptation is narrowly connected with local responsiveness. Indeed, the Schumpeterian characteristics of the franchisees lead them to innovate and to try anything that could enhance their profitability in local markets, which produces a local response. Such behaviors on the part of franchisees tend to generate ideas that can be recovered by the operator if it means a better adequacy with the whole consumers. We take into account this in a variable called "innovation rate from franchisees" (INRATE) which is connected to another one which is "local responsiveness rate" (LORATE) which depends of franchisees. The latter is in fact reflected by the ability of the franchisees to have a part of local outsourcing and not to be delivered by the operator's supply chain. Then, the author of "franchise organizations" argues that only the operator can engage research and development expenditures because of the amount of it. The franchisor is motivated to make that sort of expenditure because it allows higher revenues in all the outlets and consequently for him too. It is obvious that the higher this expenditure will be, the higher the franchisor's interest for the systemwide adaptation challenge will be. A second variable (RDEXP) symbolizes it.
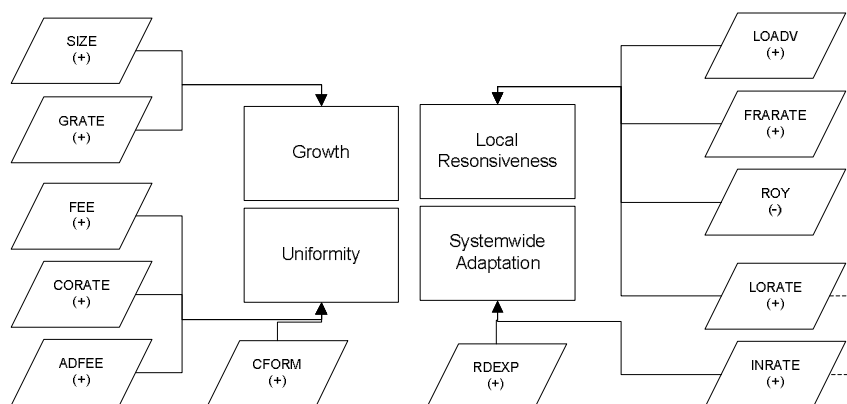

Fig. 3. Modeling of the management challenges

6

This work on those variables is issued from PhD studies (Lagrange, 2008) and is based on a structural equations modeling. A point that is important to stress on is that an operator has to balance between two groups of goals: first are growth and uniformity and second are local responsiveness and systemwide adaptation. Those aims are in fact issued from respectively company owned structure and franchised outlets. As Bradach demonstrate it, it cannot be possible to emphasis only on one of this group of goals or structure and the operator has to manage simultaneous all of those variables. This is relied to two major costs inside the structure of the network as we demonstrate it: transaction costs and uniformity costs relied to franchised organization and coordination costs due to company owned structure. The first two costs are a symptom of a loss in the control and in uniformity and the second is a consequence of agency theory and a lack of motivation in companies owned.

The next section presents an application of the proposed approach on a supply chain of a franchise network.

III. APPLICATION ON FRENCH NETWORKS

The case study and the action models selected thanks to the proposed framework are presented in paragraph 1. Results are given and commented in paragraph 2. We will apply the proposed modelling process on 3 networks types:

- A bakery networks composed of a supply chain producer and a retail outlet that sells the products made by the operator of the network in his own factories (Paul, La Mie Caline, Saint Preux, La Croissanterie, Brioche Dorée, St Preux…)
- A traditional Restaurant Franchise network composed of a supply chain producer and retail outlets that transform products made by the operator of the network in his own factories (Flunch, Courte Paille, La Boucherie, Buffalo Grill, Dell Arte, la Pataterie, Hippopotamus…)
- A fast food restaurant franchise network composed of a supply chain producer and retail outlets that transform products made by the operator in his own factories (Mac Donalds, KFC, Quick, Domino Pizza, Class'Croute…).
  We only present results done with the first networks.

Case study presentation and selected action models

The studied network (a bakery network) is comprised of a network of franchisees, a network of company-owned outlets, industrial factories, where bread, cakes, and others products are elaborated. Twelve quarters of demand are known. This case study is elaborated by data issued from the French Federation of the Franchise (2010), table 1.

Name of the Company	Network franchise creation	Growth rate - 2005/2007
SAINT PREUX	1998	60,00%
PAUL	1965	6,43%
LA MIE CALINE	1985	13,79%
LA CROISSANTERIE	1977	8,66%
BRIOCHE DOREE	1992	18,58%
POINT CHAUD	1981	24,21%

Table 1. The studied franchise networks

The horizon level is 12 quarters, and the planning horizon level is the month. This organization runs under either push or pull system. Therefore, 2 types of strategies for supply chain management are evaluated by Model A: a push and a pull strategy. We only use results from the push strategy which gives a better customer satisfaction for distribution networks. A discrete event simulation model running in SIMAN IV allows building input data for Model B. More precisely, a discrete event simulation was preferred to mathematical model for many reasons such as modeling constraints and computation time. Specific modeling was done to take into account particular constraints caused by horizon level and planning horizon of supply chain networks. Two kinds of scenario are evaluated thanks to Model B (scenario 1: all the new outlets are company-owned; scenario 2: all the new outlets are franchised). Model B is also used as a Mixed linear program and gives, by selecting for each new

outlet its nature (franchisee, or company-owed), optimal cash flows for the operator. Modeling process is presented in figure 4.
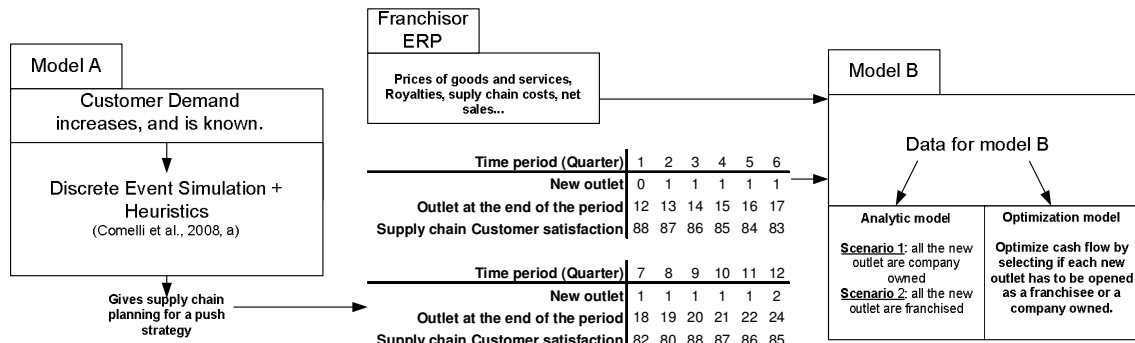

Fig. 4. Model A results and Model B used

Model B Results

Figure 5 presents results if the entire new outlets are company-owned; figure 6 presents results if all the new outlets are franchised; figure 7 presents the results of the using of model B as an optimization model.
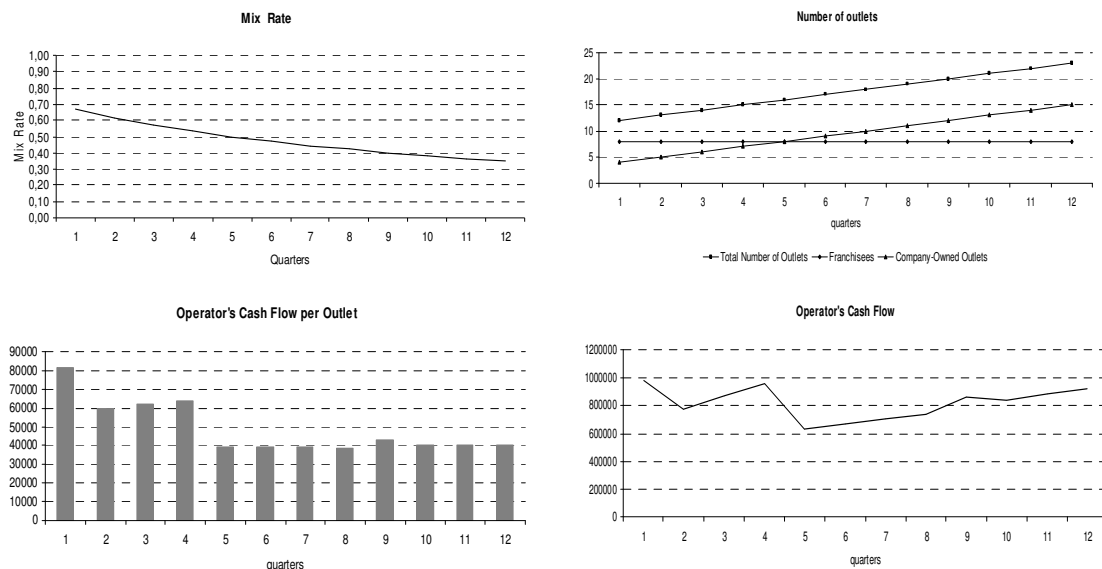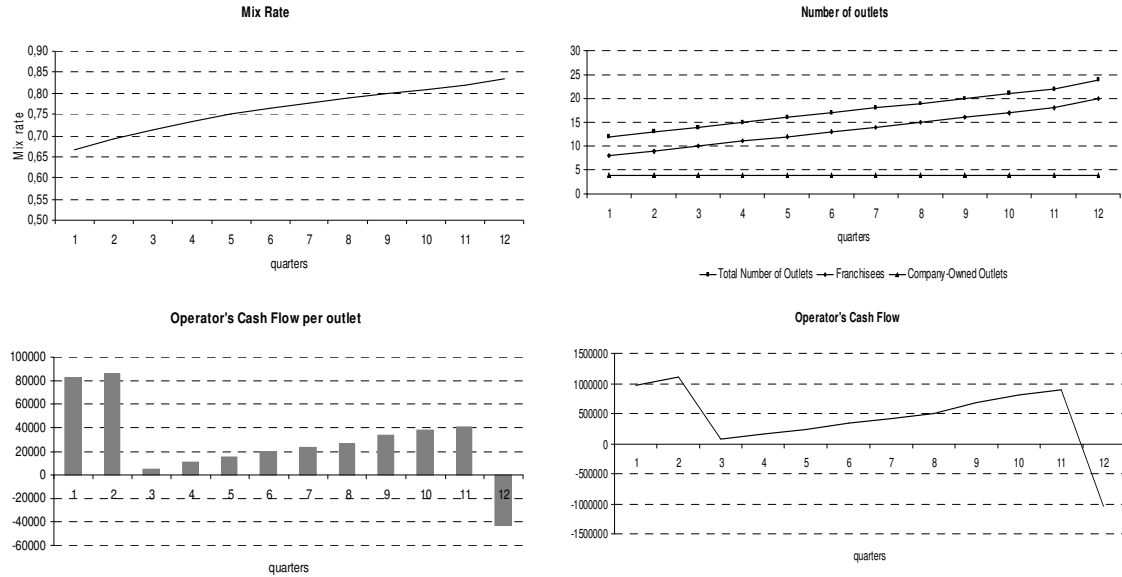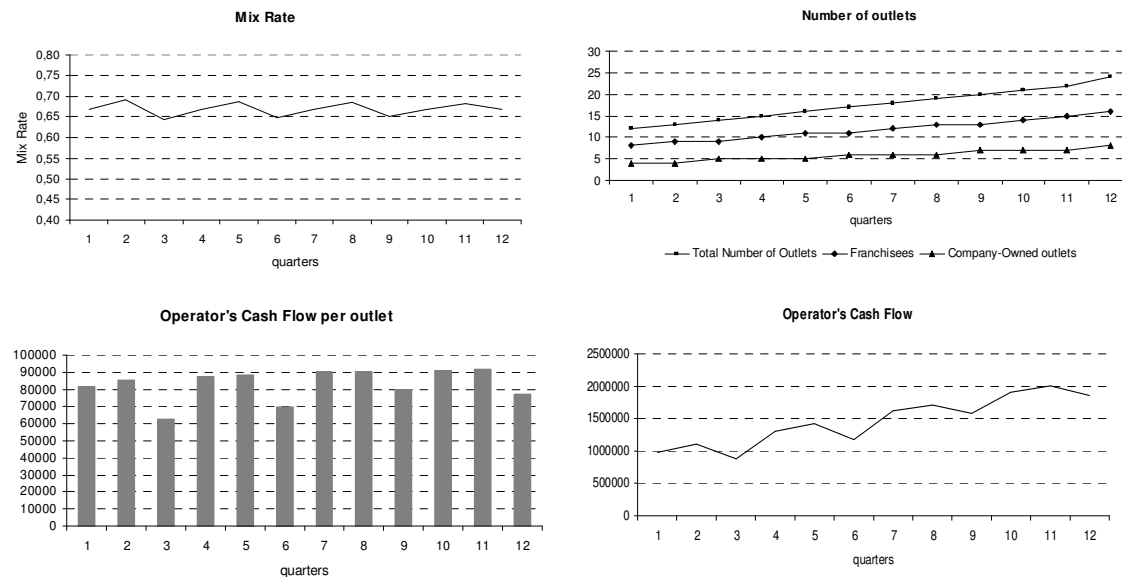

Fig. 5. Scenario 1 results

One of the most important points one should notice is that, in a network which tends to grow with company-owned outlets, the cash-flow per outlets tends to be stable after the fiftieth quarter whereas the operator's cash-flow seems to grow at a fixed rate. To our mind it is essentially due to the fact that the only way an operator can lever more cash is to open new outlets (Emmerson, 1982) when he chooses to manage his development with company-owned. Moreover, this phenomenon comes from the growing cost of control (as seen at period 2 and 5) of the whole outlets thanks to agency theory, and it is also due to the use of a part of the cash-flow to financing the new outlets.

Fig. 6. Results for Scenario 2

In this case our operator chooses to manage his development only with franchisees. If it seems to be a good strategy in the first two periods, we can observe that the cash flow is sharply depreciated after those two quarters. Our modeling shows indeed that the growing number of franchisees compared to the stable number of company-owned outlets tends to reduce the ability of the operator to control his network in terms of uniformity due to local responsiveness (modeled with the LORATE variable that generates uniformity costs) of the franchisee for example. Also, even if the franchisees can serve the demand better, after the eleventh period, thanks to Lagrange and Féniès (2005) it conducts the operators to resize up his supply-chain to face the franchisees' demand. This cost is reported on all the outlets and we can see this in the last quarter. Moreover, from the third to the eleventh quarter, the operator's cash flow increases. In our opinion, this increasing is due to the ability of the franchisees to innovate (here modeled with the INRATE variable) and to generate new ideas which tend satisfying better the demand.

Fig. 7. Optimization results

9

Thanks to a growth balanced between company-owned outlets and franchisees, we notice that the operator's cash-flow tends to grow at a constant rate. Moreover, if we can observe a little reduction of the operator's cash-flow periodically, it is only due to the purchasing of company-owned outlets (these purchases are reported all over the outlets as show in "the operator's cash-flow per outlets" graphic). But, at last we do not observe any phenomena such as costs of control or uniformity cost which are set to zero by our modeling. If we compare the three kinds of results, it is obvious that the third one is the best: managing the development of the network by maintaining a stable mix of franchisees and company-owned outlets seems to offer the best results for the operator in terms of cash-flow compared to a growth by adding company-owned outlets or franchisee outlets. Moreover, this latest result also shows the efficiency of the choice of a mixed network for the outlets themselves. Besides, our results tend to show that company-owned structure seems to be a better choice than a whole franchised system.

CONCLUSION

We will apply the proposed modelling process on 3 networks types:

- A bakery networks composed of a supply chain producer and a retail outlet that sells the products made by the operator of the network in his own factories (Paul, La Mie Caline, Saint Preux, La Croissanterie, Brioche Dorée, St Preux…)

-A traditional Restaurant Franchise network composed of a supply chain producer and retail outlets that transform products made by the operator of the network in his own factories (Flunch, Courte Paille, La Boucherie, Buffalo Grill, Dell Arte, la Pataterie, Hippopotamus…)

-A fast food restaurant franchise network composed of a supply chain producer and retail outlets that transform products made by the operator in his own factories (Mac Donalds, KFC, Quick, Domino Pizza, Class'Croute…).

These case study are elaborated by data issued from the French Federation of the Franchise (from 2006/2012) that provides annually data from networks
We show that the plural form is more efficient in generating cash flow for the operator, whatever the studied network. This form is, in fact, the best choice for an operator that wants to develop his network while balancing challenges such as growth, uniformity, local responsiveness and global adaptation. This approach links together two research fields: a strategic one with the choice of the statutory form of the outlet in a mixed franchised network and a tactical and operational one that optimizes the cash flow in supply chains.
Considering the choice between companies owned and franchised outlets, our work is fully compatible with numerous works on scarcity resources and agency theories. An original contribution can also be seen in the coupling of two domains which are franchise distribution and supply-chain management. However, it is important to notice that this approach is based on French networks which have the specificity of being food oriented. All things considered, this work has to be further pursued to be generally applied to numerous cases of franchised organizations.

REFERENCES

Beamon, B., 1998, Supply chain design and analysis: Models and methods, International Journal of Production Economics, 55, (3), 281-294.
Bertel, S., Fenies, P. and, Roux O., 2008, Transfer pricing and cash flow optimization in software for extended enterprise. Accepted for publication in International Journal of Computer and Integrated Manufacturing
Bradach, J.L., 1997, Using the Plural Form in the Management of Restaurant Chains, Administrative Sciences Quaterly, 42, 276-303, 58
Bradach, J.L., 1998, Franchise Organization, Harvard Business School Press, Boston, Massachusetts, p. 61
Castrogiovanni, G.J, Combs, J.G. and, Justis, R.T., 2006, Resource Scarcity and Agency Theory Predictions Concerning the Continued Use of Franchising in Multi-outlet Networks, Journal of Small Business Management, 44, (1)
Chanut O., Paché G., (2012), Stratégies logistiques émergentes : de la grande distribution alimentaire aux réseaux contractuels, marché et organisation, n°15
Cliquet, G., 1998, Les réseaux Mixtes, Franchise/Succursalisme : Complémentarité ou Antagonisme ?, CREREG UMR CNRS 6585, Rapport destiné à la Fédération Française de la Franchise, 109p

Cliquet, G., 1997, L'attraction commerciale : fondement de la localisation différentielle, Revue Belge de Géographie, 121, 57-70

Cliquet, G., Pénard, T., 2002, Optimisation de la pluralité statutaire des réseaux de franchise : Proposition d'un modèle d'aide à la décision, CREREG UMR CNRS 6585, Rapport destiné à la Fédération Française de la Franchise, 94p

Cliquet, G., G. Hendrikse, M. Tuunanen, J. Windsperger (2007), Economics and Management of Networks, Springer.

COMBS, J.G, KETCHEN, JR D.J., 2003, Why do Firms Use Franchising as an Entrepreneurial Strategy ? : A Meta- Analysis, Journal of Management, 29, (3), 445-465

Comelli, M., Fenies, P. and, Tchernev, N., 2008 A combined financial and physical flows evaluation for logistic process and tactical production planning: Application in a company supply chain, International Journal of Production Economics, Volume 112, Issue 1, March 2008, Pages 77-95.

Dudek, G., Stadtler, H., 2005, Negotiation-based collaborative planning between supply chains partners, European Journal of Operational Research, 163, 668–687

Emerson, R., 1982, Fast Food : The Endless Shakeout., New York, Lebhart Friedman

Federation Française de la Franchise, 2006, Toute la franchise, les textes, les chiffres, les réseaux, FFF editor.

FENIES. P, LAGRANGE, S. TCHERNEV N., (2010), A Decisional Modeling for Supply Chain Management in Franchise Network: application on a french bakery network, Production Planning & Control: The Management of Operations Volume 21, Issue 6, 2010, Pages 595 - 608

Foss, N.J., 1999, Networks, capabilities and competitive advantage, Scandinavian Journal of Management, 15, (3)

Galani, N., Lutz, N., 1992, Dual distribution and royalty fees in franchising, Journal of Law, Economics and Organization, 8, 471-501

Ghosh, A., Craig, C.S., 1991, FRANSYS: A Franchise Distribution System Location Model, Journal of Retailing, 67, (4), 466-495

Hendrikse, G., J. Windsperger, G. Cliquet, M. Tuunanen (2008), Strategy and Governance of Networks, Springer.

Hayek, F.A., 1945, The Use of Knowledge in Society, American Economic Review, 35,1-18

Holweg, M., Disney, S., Holmstro, J., Smâros, J., 2005, Supply Chain Collaboration: Making Sense of the Strategy Continuum, European Management Journal, 23, (2), 170–181.

Jensen, M.C., Meckling, W.H., 1976, Theory of the firm : managerial Behavior, Agency Cost and Ownership structure, Journal of Financial Economics, 3, (4), 305-360

Jensen, M.C., Meckling, W.H., 1994, The nature of man, Journal of Applied Corporate Finance, 7, (2), 4-19

Jensen, M.C., Meckling, W.H., 1995, Specific and General Knowledge, and Organizational Structure, Journal of Applied Corporate Finance, 8, (2)

Kaufmann, P.J., Dant, R.P., 2001, The Pricing of Franchise Rights, Journal of Retailing, 77, 537-545

Lafontaine, F., Bhattacharyya, S, 1995, The Role of Risk in Franchising, Journal of Corporate Finance, 2, 39-74

Lafontaine, F., Shaw, K.L., 2001, Targeting Managerial Control : Evidence From Franchising, Working Paper 8416, National Bureau of Economic Research, Cambridge

Lagrange, S., 2007, De l'analyse contingente à la vision systémique de la franchise : proposition d'une modélisation du management des franchises à mixité statutaire par la méthode des Equations Structurelles, Conférence Internationale Méthodologies de la recherche – ISEOR/RMD, Lyon

Lagrange, S., Féniès, P., 2005, Une modélisation de l'impact du franchisage des points de vente sur la supply-chain du franchiseur, 8ème colloque E. Thil, La Rochelle, Sep.

Lewin-Solomons, S., 1999, Innovation and Authority in Franchise Systems: An Empirical Exploration of the Plural Form, Cambridge Working Papers in Economics 0015, Faculty of Economics (formerly DAE), University of Cambridge

Manolis, C., Dahlstrom, R., Nygaard, A., 1995, A Preliminary Investigation of Ownership Conversions in Franchised Distribution Systems, Journal of Applied Business Research, 11, (2), 1-8

Mathewson, G.F., Winter, R.A., 1985, The Economics of Franchise Contracts, Journal of Law and Economics, 28, (3), 503-526

Michael, S.C., 2002, Can Franchise Chain Coordinate?, Journal of Business Venturing, 17, 325-341

Miller, M.H., Orr, R., (1966), A model of the demand of money for firms, The Quarterly journal of economics, 80, (3), 413-435.

Orgler, Y.E., 1969, An unequal period model for cash management decisions, Management Sciences, 16, 77- 92.

Oxenfeld, A.R., Kelly A.O., (1968-69), Will Successful Franchise System Eventually Become Wholly-Owned Chain ?, Journal Of Retailing, 44, 69-83

Perrigot, R., 2002, La pluralité des formes statutaires au sein d'un réseau de points de vente : une application à la survie des chaînes de pizzas en France entre 1987 et 2001. Sciences de Gestion et Pratiques Managériales, V. Giard Ed., Economica.

Shah, N., 2005, Process industry supply chains: Advances and challenges, Computers & Chemical Engineering, 29, (6), 1225-1236.

Scott, F.A., 1995, Franchising vs. Company Ownership as a Decision Variable of the Firm, Review of Industrial Organization, 10, 69-81

Tuunanen, M., J. Windsperger, G. Cliquet, G. Hendrikse (2011), New Developments in the Theory of Networks, Springer.

Windsperger, J., 2001, The fee structure in franchising: a property rights view, Economics letters ,73

Windsperger, J., 2002, The Structure of Ownership Rights in Franchising: An Incomplete Contracting view, European Journal of Law and Economics, 13, 129-142.